Genesis Professional & Express
User's Manual

Topics Covered:
- **Introduction**
- **Part 1:** Installing the Software
- **Part 2:** Using the Software
- **Part 3:** COPS Toll Fraud
- **Part 4:** General Diagnostics
- **Appendices**

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Contents

Copyright notice 1
Introduction 3
Part 1: Installing & Running the Software 7
Installing & Running the System 8
Installation Instructions 9
Common Problems & Solutions 10
Part 2: **Using the Software** 11
Using the Software 11
Call Billing Procedures 12
Entering Trunk Information 14
Call Timers Table 16
Entering Surcharges & Taxes 17
Entering the Equipment List 19
Entering Extension Information 20
Entering Dialed Digits Information 25
Entering Account Code Information 27
Capture All Calls Feature 28
Installing Updates 29
Performing Monthends 29
Create / Restore Backup Copies 30
Setting Hourly Discounts 31
Setting Access Codes 31
Setting Data Collection Parameters 32
Call Processing Characteristics 34
Printing Reports and Listings 36
Printing Hotel / Motel Reports 40
Viewing Rate Table Information 42
Recosting Calls 42
Part 3: COPS Toll Fraud 42
COPS Toll Fraud Module 43
Part 4: Genesis Diagnostics 44
Diagnostics 45
Appendices 48
Remote Site Polling 49
Installing the Multi-Switchboard Version 51
Configuring the PMS Interface 52
Exporting Calls to Other Programs 57
Archiving & De-archiving Call Records 58

Introduction

- Different Versions
- General Business Applications
- Hotel and Motel Applications
- System Benefits
- System Features
- Available Options
- Topics Discussed

Introduction

Different Versions

This call accounting system is designed to be both "user-friendly" and "simple" to use yet pack the power of systems costing thousands of dollars more. A great deal of care has been taken to avoid complex menus, unnecessary features, redundant reports or complex operating procedures. Naturally, the more complex a system is, the harder it is to learn and the more vulnerable it is to user error and system failure. The system developers have many years of both computer and telephone experience which you will see reflected in the quality of this product. We always welcome any comments or suggestions you may have.

The following versions of the software are available:

> **Professional series** - fully featured, Extensive Reporting, Traffic, Fraud, Equipment Inventory, Directory modules
>
> **Express series** - for smaller companies with fewer than 100 phones that require just basic reporting, and no fraud, equipment or directory modules.

« Back

General Business Applications

The 1980s & 1990s gave birth to a new era of "cost consciousness" in companies of all sizes. Companies can no longer let operating expenses escalate without some means of monitoring and controlling them. Until recently, corporate telephone costs (from both time and money) have represented one of the most expensive and yet hardest to control areas of corporate expenditures. This package gives you that control.

Some companies have attempted to control and allocate their telephone expenditures using various manual methods. In addition to being costly and ineffective, none of the manual methods provided for the proper allocation of telephone calls placed over fixed-rate facilities or provided any means of traffic measurement. Also, none of these methods permit the distribution of telephone equipment charges to division, departments and extensions. Hence, the need for a computerized telephone management like this one.

« Back

Hotel and Motel Applications

Hotels and Motels are heavy users of this package. Many are using it to allow their guests to make 1+(telephone number) as opposed to strictly 0+(telephone number) calls (DDD as opposed to operator assisted). In some cases, the telephone call information is sent directly to the hotel/motel's computerized Property Management System (PMS), that can be running on the same computer, or a different computer located elsewhere.

In the hotel/motel environment, it can generate significant revenue. Through a generous offering of **Surcharges and Markups** you can adjust the software to add any mixture of surcharges and markups to the basic cost of the call. Even local and incoming calls can be billed if you desire. **Many hotels and motels route customer long distance calls over special services where "discount rates" apply, but still bill the calls at the regular telephone company rates, hence realizing substantial profits!**

« Back

Software Benefits

CONTROL your telephone bill by accurately allocating telephone calls and equipment costs right through your company's hierarchy back to its source.

REDUCE your telephone bill by tracking telephone misuse, abuse and fraud right to its source. Control those illegitimate calls and reduce the number of calls placed over expensive facilities. You can also ensure those "critical" calls were made.

GENERATE REVENUE for your company by effectively billing back telephone costs to the appropriate client, guest, project or department, with any desired surcharges or markups.

CONFIGURE your telephone system with the most economical combination of lines and services.

« Back

Software Features

The software consists of programs that run on your PC to provide you with **ON-SITE REAL-TIME** telephone call costing, allocation and reporting. This system is connected to your switchboard, from which it actively collects and processes raw Call Detail Records (CDR) and stores them in files. These CDR records usually contain the date and time that the call was placed, the duration of the call, the extension number placing the call, the trunk facility used, the telephone number dialed, and the account code number (if used). The system uses configuration files, that you will prepare, to allocate these charges within your company or charge back to guests or clients. Some of the features of are discussed below. *Features only available with the Professional series are marked with an *.*

1. **Real Time Call Costing** - telephone calls can be billed, allocated and reported on as they ACTUALLY OCCUR.

2. **COPS Toll Fraud Reporting*** - the Professional series comes with the **COPS** Toll Fraud Reporting System, which tracks fraudulent calls and notifies you by alarm or fax.

3. **Multi-tasking** - you can run your other PC programs (such as word processing) on your computer while collecting and billing telephone calls.

4. **Hotel and Motel** - a special hotel/motel version complete with special Profit and Guest Reporting is available. Optional Property Management System (PMS), Internet Usage and HOBIC/Autoquote integration interfaces are available.

5. **Batch Processing** - Calls can bill calls in real time or store and process your telephone calls automatically at a later time.

6. **Monitor All Calls*** - This package permits the user to record ALL call data (incoming, local, misdialed, local to local), in addition to regular DDD calls, for ALL extensions, or selectively.

7. **Traffic Studies*** - Traffic studies are automatically performed, and the produced comprehensive Traffic Reports show you how well your telephone network is performing. From the traffic reports you can see the grade of service your current telephone network offers to its users.

8. **Call Markups, Surcharges and Taxes** - The system features a comprehensive call markup feature that permits all calls to be costed at the regular telephone rates plus a user-determined percentage markup or surcharge. This feature can generate substantial revenue for many types of businesses such as lawyers, accountants, hotels, motels, and hospitals. Several different markup tables can be used simultaneously and applied to calls based on extension, trunk, account or dialed numbers. Three separate levels of taxation are permitted, with the option of tax on tax if required.

9. **Accurate Call Costing** - By default calls are billed using the true V&H tables for your location. In addition up to 9 different custom rate tables may be used simultaneously by the software to accommodate OCC (Other Common Carriers) calls. Through the system screens you can also enter your own customized billing rates for calls.

10. **Time of Day Discounts** - Correct time-of-day and day-of-week discounts are applied in the same manner as your telephone company. Depending on your application, these can be turned off for maximum billing.

11. **Telephone Company Discount Plans*** - When applicable, popular telephone company discount plans can be applied when billing calls.

12. **Extensive Reporting** - over 100* different standard reports can be generated. Special customized reporting features allow the user to select the parameters for the calls to be extracted and printed on the reports (e.g. all calls over $10.00 to area code 403 between the hours of 9:00 a.m. and 11:30 a.m.).

13. **Custom Reporting*** - The system allows you to create and name your own custom reports for future use.

14. **Automatic Monthend** - An automatic monthend is performed on a date pre-determined by you. New files are opened for the next month. Previous months' call data is kept indefinitely or until you archive it and delete it from the system.

15. **Automatic report generation*** - you can pre-select a group of reports (including Custom Reports) that will be automatically displayed, printed, or emailed at pre-selected intervals.

16. **Equipment Inventory*** - allows you to inventory, allocate and charge to each extension, the telephone equipment, calling features, or any other non-related items. Comprehensive equipment distribution lists can be produced showing you where all the equipment is located.

17. **Directory*** - allows you to produce complete company directories sorted and printed in user-determined formats. Multiple people can be assigned to individual extension numbers to facilitate company directories. Up to ten user defined fields are available for special items you wish to track (like home phone number, cell number, pager number, address, etc.). Email address and comments fields are also available.

18. **CLID Reporting** - when available from your switchboard, the incoming caller's telephone number is shown on your reports.

19. **Switch Maintenance Software Integration** - If you have purchased our software for performing Moves, Adds and Changes to your PABX (MAC's) then the extension information can be automatically shared between the two packages eliminating dual entry and maintenance of information.

20. **NANP, OCC Prefix and Telco Dialing Features** - The system recognizes calls using the new North American Numbering Plan, alternate carrier prefix dialing codes and Telephone Company dialing features (like *67, *69, etc).

21. **Power Failure Recovery** - The software software fully recovers from power failures without user intervention.

22. **Full Trouble Reporting** - Full comprehensive Trouble Reporting is included, so reporting a problem is as simple as running a report and emailing or faxing it to your support centre.
23. **Password Security*** - Multiple levels of password security are included, where access is denied to certain areas of the system until the correct password is entered. The system continues to process calls while waiting for the correct password.

24. **Annual Software Maintenance Program** - you can subscribe to our Annual Software Maintenance program that ensures you will always have the most current telephone rates, program updates and qualified technical support to help you get the most out of your system. **The first year is included with the purchase**. After that you will be automatically notified each year before the anniversary of your original purchase.

« Back

Available Options

1. **Remote site polling** - Allows you to poll the call information from multiple branch offices back to your office for processing and reporting. The system maintains separate configuration files for each branch office, just as though it was running its own independent system.

2. **Multi-tenant package** - Allows the software to collect data for several different customers all sharing the same switchboard. Each customer has its own separate configuration files just as though it were running its own independent system.

3. **Buffer boxes** (normally not required) - For those customers who wish to use the entire PC to run other application programs, you may purchase a buffer box to temporarily store calls while you run your other programs. The software will then automatically process the calls later. Both dial up modem and IP connected buffer boxes are supported. Contact your dealer for more information.

4. **A special "DATA EXPORT" utility** - Extracts calls from your call record files and re-formats them into various different customized formats so other programs can read them. This utility can be run as often as desired and only extracts the calls since the last time you ran it. It is an additional option to the standard export option offered.

5. **Auxiliary rate tables** - Permit billing of calls placed over OCC (other common carriers)

6. **Multi-switchboard version** - collects calls from multiple independent switchboards simultaneously. These calls are either kept in separate files and treated as an entirely different systems, or combined for unified reporting.

7. **Property Management System Interfaces** - enables Hotel/Motel systems to automatically track calls and transmit **all** guest calling information directly to another computer for posting to customer folios.

8. **Internet Usage Interfaces** - enables Hotel/Motel internet usage to automatically be billed and the information transmitted with guest calling information directly to another computer for posting to customer folios.

9. **COPS Interrogator** (for Nortel series PABX's) - works with the existing COPS Toll Fraud module to actually **disconnect** fraudulent calls in progress! The COPS Interrogator takes aggressive action against toll fraud calls.

10. **Switch Maintenance** (for Nortel series PABX's) - performs **Moves, Adds & Changes** to your Nortel PABX at specified times. allows the exchange of configuration information between your system and your switchboard to avoid dual entry.

11. **Traffic Manager** - performs detailed comprehensive traffic reporting and studies on your PABX. These reports cover more aspects and are far more detailed than the ones found in this package.

12. **Contact Center Manager** - produces detailed Agent, Queue and Trunk Route statistical and performance reports based on the call activity in your Contact Center.

« Back

Topics Discussed

Part 1 Outlines the steps to follow when installing the software.

Part 2 Discusses system configuration and the **Do's and Don't's** to observe when operating the software.

Part 3 Discusses call billing characteristics, system files and operating cycles.

Part 4 Discusses System Diagnostics and trouble-shooting procedures.

Various Appendices are referred to throughout the manual when more information about a specific topic is available to the reader.

« Back

Part 1: Installing & Running the Software

Part 1:
Installing & Running the Software

- Installing & Running the Software
  - What Hardware do I need?
  - How does the Windows Version work?
  - How does the DOS Version work?
  - Why should I leave the computer ON at all times?
  - When does the system bill my telephone calls?
  - How do I bring the system up?
- Installation Instructions
- Common Problems & Solutions

Installing & Running the Software

Any phone system programming instructions are supplied with your phone system.

What hardware do I need?

Our programs can run on your PC without interfering with most of the programs you would normally run. If you already have a PC in your office or you plan to purchase one, ensure it meets the specifications outlined below.

The system requires the following minimum PC specifications to operate correctly:

- Windows 2000, XP or later
- Minimum of 24 Meg. memory
- 1 serial communications port (USB Serial Ports are unreliable)
- printer for reports
- hard disk with at least 20 megabytes free
- CD drive

Why should I leave the computer ON at all times?

1. The data collection and billing programs must remain running 24 hours / 7 days per week in order to collect call data from your phone system. The data collection and billing programs are automatically started each time the computer is started.

2. The system performs automatic nightly processing cycles.

When does the system bill my telephone calls?

For the main site call data is billed as it is received. For any remote sites data billing and allocation is may be done **each time you enter the system by bringing up the main menu**, or each night automatically depending on your requirements and how your system is configured. Call technical support for more information.

When the main menu is up, you can observe call records from your phone system being costed on the screen. It quickly "catches up" by processing any outstanding calls records already received from your phone system. If you leave this menu up, your calls will be processed in "real-time" as they occur and be ready for report printing immediately.

How do I bring up the software?

Click on the desktop icon for single-site version or the Suite icon for Polling & multi-tenant/switch to launch the menus. To observe the collection and billing programs that run 24/7 click on the **GenStart** icon(s) running in the tray.

Installation Instructions

Step 1: Ensure the computer's DATE and TIME are correct.

Step 2: Mount the "Installation CD".

Step 3:

If the install program doesn't automatically launch then:

Click **Start » Run** then enter **d:\setup.exe**

(assuming your CD drive letter is designated as d)

The system's installation program will automatically copy and create the necessary programs and files on your hard disk into the newly created folder **\genroot\cdr**.

Step 4: Follow the instructions displayed on the screen. Enter the serial port settings to be used for collecting call data. Enter the PC's serial port number, and the speed, and parity that matches your telephone system. Ensure you select a PC serial port not used by other programs.

Step 5: (Polling, Multi-switchboard & Multi-tenant versions only) follow the additional instructions displayed on the screen by the installation program.

Step 6: Construct a cable that links your PC to the phone system's CDR data port. The system requires only 2 wires from your switchboard (receive and ground). You can start by using a standard serial cable but **depending on your phone system, you may need to use a null modem adapter or strap some pins (join together) at the phone system end of the cable to make it happy so it will send CDR records continuously (e.g. 6 with 20, or 4 with 5). Check your phone system's documentation if you need further information.**

PABX CDR Port (25 pin)		**Computer COM Port (25 pin)**		**Computer COM Port (9 pin)**
Transmit 2 or 3	----------	3	----------	2
Ground 7	----------	7	----------	5

Step 7: Program the switchboard to send **ALL** call records at the speed and parity you previously set. Sending **ALL** call records ensures accurate Traffic reports and the ability to monitor local & incoming calls.

Step 8: Click on the desktop icon and enter the system. You should now see call records being displayed on the screen as they occur. If your phone system is not very busy, place a test long distance call (at least 1 minute) and watch for the record to appear on the screen when you hang up.

Step 9: If your switchboard attaches **Access Codes** and **Alternate Carrier Codes** or **Telephone Feature Dialing Prefixes** (other than ***66, *67,*69**, which have already been added to your system's configuration) directly onto the front of the dialed digits, then you must enter them into the **Access Codes** screen.

YOU MUST IGNORE THIS STEP IF THESE CODES ARE NOT ATTACHED DIRECTLY TO THE FRONT OF THE DIALED DIGITS OR IF THEY ARE SEPARATED FROM THE DIGITS BY SPACES, OTHERWISE CALL COSTING ERRORS WILL OCCUR. (If you are installing this on an SL-1/Meridian 1 then you should enter the access codes here.)

This information can be obtained from your phone system's technician and entered immediately into the system. Or if you can not readily determine these codes, you may watch the raw records being collected and make note of these codes. Then you may come back and complete this step once you are sure you have them all..

To enter these access codes click on "Settings" in the main menu then select "SET Access Codes". If a special rate table has been ordered you will have received additional sheets outlining the instructions to follow.

Step 10: (Professional version only) Enter the **Trunk** information if this site has numerous different types of trunks or let the system accumulate calls and add them for you automatically. **If all trunks are the same type (i.e. two way Central Office trunks) then you may skip this step.** If special handling is required then refer to **"Entering Trunk Information"** elsewhere in this manual for further information. If you miss assigning any trunks, the system will automatically add them for you to the **C2WAY** category and bill any calls placed on those trunks using standard DDD rates.

Step 11: To completely finish the installation you should do the following:

Enter your Surcharge & Tax amounts
Enter your Extension information
Enter your Monthend Date

Refer to this manual or press the <Help> button on the appropriate screen for further information on each topic if required.

Step 13: If you are installing a **Buffer Box, Polling, Multi-switchboard, Multi-tenant version or a Hotel / Motel system with a PMS** option, then refer to the appropriate Appendix or additional instruction sheets.

Common Problems & Solutions

Common Problems & Solutions

I don't see any call records:

a. check the phone system's programming instructions
b. try using a null modem connector to swap pins 2 and 3
c. check the cable for assembly errors or loose connections.
d. ensure the cable is connected to the correct port on your PC and telephone system
e. test the operation of the PC's serial port using the serial port test program under the diagnostics menu
f. check the PC's serial port for conflicts with other software or hardware

I see call records but they are garbled:

a. speed and parity settings in the system don't match your telephone system
b. PC serial port conflicts with other software or hardware

I get this error message: "INVALID FORMAT - RECORD IGNORED"

- (constant error message) - wrong switch specification file (FILTER.xxx)

- (occasional error -)check the records for uniformity, garbage characters or non CDR related records

Call technical support for more information.

Part 2: Using the Software

Part 2:

Using The System

- Using the Software
- Call Billing Procedures
- Entering Trunk Information
- Call Timers Table
- Entering Surcharges and Taxes
- Entering the Equipment List
- Entering Extension Information
- Entering Dialed Digits Information
- Entering Account Code Information
- Capture All Calls
- Installing Updates
- Performing Monthends and Deleting Previous Call Data
- Create/Restore Backup Copies
- Setting Hourly Discounts
- Setting Access Codes
- Setting Data Collection Parameters
- Setting Miscellaneous Call Processing Characteristics
- Printing Reports and Listings - General Business
- Printing Hotel/Motel Reports
- Viewing Rate Table Information
- Recosting Calls

Using the Software

Using the Software

This portion of the manual explains how to prepare and enter your configuration information. It also explains the various functions, features, and operating principles of the system.

The system is packed full of features that you may or may not wish to use. **Read the first paragraph at the top of each Section to determine whether the topic discussed is applicable to your requirements.**

Click the Call Accounting desktop icon to launch the main entry screen. From here you can proceed deeper into the detailed menus and screens that are required to modify the system files and settings, print reports, or perform the other functions of the system.

From the main screen you will notice (depending on the tab you have selected), a screen displaying the raw call records in the format they are received from your switchboard or a screen displaying the costed formatted records retained by the software. Any calls that have been received from your switchboard while you were out of the software will be quickly processed, displayed, and made ready for reporting.

Software Do's and Don't's

Like most things in life, there are rules. Here are ours...

Rule 1: THIS IS THE MOST IMPORTANT RULE OF THEM ALL! Simply check to see the software is operating correctly **every** day by performing the following tests:

Bring up the system's main menu and check the following items:

a. **Raw Call Records and Costed Calls** - are being collected, processed and displayed on your screen.
b. **Current Computer date and time** - is displayed on the top of the screen.
c. **Current Telephone System date and time** - is correct in the raw records.
d. **Warning Messages** - note any warning messages displayed on the *System status* screen.

Refer to **System Diagnostics** for procedures to follow, if you encounter problems with any of these items.

If you FAIL to do this, the system or your telephone system's CDR port could be down for a long period of time before anyone would know. If the system is down, call record collection is suspended, so data is lost. If the dates are wrong, system cycles and call billing could be dramatically effected.

Rule 2: NEVER turn the power **OFF** to the computer because call data collection will be terminated while the power is off and automatic cycles will not run.

Rule 3: If the computer hangs or freezes, **PRESS THE COMPUTER'S RESET BUTTON IMMEDIATELY SO THE COMPUTER CAN RECOVER and call collection can resume**.

Rule 4: ALWAYS remove any floppy diskettes from the disk drive so your system will restart correctly.

Rule 5: ALWAYS make backups of your system files and store them in a safe place. Backup procedures are discussed in this manual.

Rule 6: NEVER confuse the letters "O" (oh) and "l" (el) with the numbers zero and one.

Call Billing Procedures

Call Billing Procedures

Do I really need to read this section?

Yes, this section will explain the methods used when costing and allocating the raw call records collected from your switchboard. It will help you configure your system to meet your specific requirements.

Where, When, Why, and How are calls costed?

1. Generally, all calls that are billed at zero will be dropped by the system and will not appear in any reports. The exceptions to this rule are:

a. **Operator Assisted Calls** (0 + telephone number) - these calls are not billed by the system because it is impossible to determine whether these calls were collect, person to person, etc. However, these calls are retained by the system and will appear on the reports. An optional surcharge can be added to these calls if desired.

b. **"Capture All Calls" feature** - any calls placed by this group will be saved for reporting purposes regardless of whether the call was incomplete, misdialed, costed or not costed. This feature will only work if your switchboard model is capable of providing all call records.

2. All calls placed on trunks that have not been identified to the system are treated as **DDD** and billed at the proper **DDD** rates according to the rate table supplied with your system. These calls are assigned to the **C2WAY** trunk type category. Any taxes and surcharges to be applied must be set by the user.

3. All WATS, Tie, FX and Miscellaneous calls are billed at a **user-determined rate per minute**, unless an optional auxiliary rate table has been ordered for that facility. If this rate is set to zero these calls are dropped and will not appear in any of the reports, subject to the conditions outlined in point 1.

4. All eligible **long distance CO** calls are billed at your telephone company's rates. When applicable, the appropriate time-of-day discounts are applied unless tome-of-day discounts have been turned off. The Rate Table subscription service will ensure that the rates and discounts used by your system are correct and up to date.

5. All **incoming** calls are dropped by the system unless the call was placed on an incoming trunk (such as 800 service) where a cost applies. Again, the user must determine a rate per minute for these trunks, or order an auxiliary rate table so call costing can occur. Otherwise, the call will be billed at zero and dropped by the system, subject to the conditions outlined in point 1.

6. All **transferred or conference** calls are generally billed to the originating extension regardless of the number of parties involved in the call.

7. All calls **shorter** than the user defined Minimum Seconds threshold are considered to be incomplete by the system. These calls are costed at zero and dropped by the system, subject to the conditions outlined in point 1. They do not appear in any of the reports.

8. All calls longer than the **Minimum Seconds** threshold are considered to be complete and eligible for costing. The **Ring Time Seconds** are then subtracted from the reported call duration to allow time for the called party's telephone to be answered (due to the lack of answer supervision). The call is then costed according to the type of trunk. A separate minimum seconds value is permitted for different call type categories (e.g. fax, 411, incoming, etc.) to help offset their different set-up times. If your telephone system detects Answer Supervision and reflects the true duration of completed calls then your should set both of these timer values to zero as discussed later in this manual.

9. Tandem calls (trunk-to-trunk calls) are costed according to trunk type and rates defined by the user in the trunk table. If the originating or terminating trunk is a Central Office trunk, an attempt will be made to bill the call according to your telephone company's rates. If the originating or terminating trunk is a **WATS, Tie, FX, or Miscellaneous** trunk the call will be billed at the user-supplied rate or the rates in an optional auxiliary rate table. **IF A COST APPLIES TO BOTH THE ORIGINATING AND TERMINATING TRUNKS THEN THE SYSTEM WILL COST BOTH LEGS OF THE CALL!** If the call is billed at zero it will be dropped and will not appear in any reports. The originating trunk in a tandem call is treated as the extension. Hence, all tandem calls are grouped together in the "Tandem Division" and "Tandem Department" categories unless the trunks are assigned otherwise. You are required to identify all trunks to the system for the Traffic reports to work correctly.

10. Overseas calls will be billed at the telephone company rates. Separate **Minimum Seconds** and **Ring Seconds** values may be used to offset the generally longer call set-up time. All 01+ operator-assisted overseas calls (North America) are handled in the same manner as 0+ operator-assisted North America calls. They are not costed but are retained in the call collection file and appear on your reports. The 011+ direct distance dialed overseas calls (are billed in the same manner as 1+.

11. All CO calls (Central Office DDD) will be assigned a two-letter destination code and city name that identifies the call's destination.

12. All **local and long distance directory assistance (411 and 555-1212 calls), 800 and 900 calls** are billed according to the user-determined rate. If your rate is zero the calls will be dropped by the system and will not appear in any reports.

13. All calls placed from **"unidentified extensions"** (extensions not entered into the system's extension file) will be billed correctly, but will be allocated and reported under the "Unassigned Division" and "Unassigned Department" until they are identified to the system. At that time they will be reassigned to their proper divisions and departments.

Entering Trunk Information

Entering Trunk Information
(Professional Version Only)

Do I really need to read this section?

You may ignore this section completely if all your trunks are Central Office two-way trunks and just regular DDD call costing is required. The system will automatically add your trunk numbers to the system files under the C2WAY category for reporting purposes. This section explains how to configure the system with all the different types of telephone trunks (lines) or facilities that your company may use. This section is not for the novice, it is one of the most difficult sections in this manual. The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

What are Trunks?

A telephone line or trunk is simply the line run into your office building or home that connects your telephone system to the outside world. The most common type of telephone line is called a "CO" (Central Office) trunk. However, based on your company's size or needs, your company may use any combination of **CO, WATS, Tie, FX, or Miscellaneous** trunks in their telephone network. The **WATS** trunk category although still present in the system, is no longer used by telephone companies in North America.

What terms do I need to understand?

Trunk Member Number - This is the actual number used by your switchboard to distinguish one trunk from another. Depending on your make of switchboard, this number can be from 1 to 7 digits in length and may be prefixed by a **"T"** or **"X"**, or it may be just numeric and contain no letters at all. If your system doesn't use a **"T"** or some other alphabetic letter on the front of the trunk number, the system will automatically add a **"T"** (e.g. trunk 04 would be recorded in the system as T04).

Trunk Type - This is the category that each trunk member in your telephone system belongs to **(C,W,T,F, or M)**. Also, a user-defined 4-letter and/or number identifier, that distinguishes similar trunks within the same general category, can be used. (e.g. C2WAY, COUT, CIN, etc.). Using

sub-category labels will separate similar trunk types on your reports. **You must supply a rate per minute for all non-"C" type trunks.** Valid trunk categories are discussed below:

C - Central Office (CO) Trunk - most common type of telephone line available. The system automatically bills calls placed over these "C" type trunks using your telephone company rates. Up to four letters/numbers can be used to differentiate trunks in this category (e.g. C2WAY, CIN, COUT).

W - WATS Trunk - (Wide Area Telephone Service) were outgoing/incoming trunks that provided users with lower telephone toll charges into specific areas. Outgoing WATS trunks are not used in North America anymore. However incoming WATS service is 800 or 888 calling is very common. You are normally charged a flat rate regardless of the origination of the call. WATS calls are usually billed with a 30-second minimum and then every 6-second interval thereafter but can vary. The trunk type code used by the system to identify these trunks is a **"W"**.

T - Tie Trunk - These trunks are used to tie two independent switchboards together. This enables calls to be placed between the two switchboards directly. You are charged a flat fee per month for each Tie trunk. The trunk type code used by the system to identify these trunks is a **"T"**.

F - Foreign Exchange - These trunks are used to connect your switchboard to a different telephone exchange. This enables companies to take advantage of better "local calling" areas by receiving the same service as if they were actually located within that exchange. You are charged a flat fee per month for each FX trunk. The trunk type code used by the system to identify these trunks is an **"F"**.

M - Miscellaneous - These trunks comprise any "miscellaneous" trunk types that do not fit in the categories discussed above. Typically they would include Other Common Carrier, Paging, Voice mail, etc. trunks. The trunk type code used by the system to identify these trunks is an **"M"**.

Trunk Description - is an additional field used to supply further information about your trunks. The *Trunk Type* field discussed above is limited to 5 characters so with this *Trunk Description* field you can enter more specific information about your trunks.

Call Timers Table Number - is the Call Timers Table number to be used by each trunk to adjust the call durations reported by your switchboard. Refer to the **"Call Timers Table"** section for more information. The system defaults to using Call Timers Table number 1.

Surcharge & Tax Table Number - The Surcharge & Tax Table to be used by each trunk can be specified. Refer to the "Surcharge & Tax Tables" section for more information. The system defaults to using Surcharge & Tax Table number 1.

Fixed Rate per Minute - is a user-determined charge per minute to be applied to non-CO trunks. If you do not wish to cost calls on any of these trunks then set the rate per minute to 0 and these calls will be discarded by the system, but the Traffic information will still be retained.

Minimum and Increment Billing Seconds - For special trunks like WATS, Tie, FX and Miscellaneous, where a user-defined rate is used, the actual billing intervals must be set. For example some calls are billed for the first 30 seconds (regardless of how short the call actually was) and then in 6-second intervals thereafter. So a call that was 1 minute and 15 seconds long would be billed as 1 minute and 18 seconds (30 seconds minimum followed by 8 six-second intervals). In this case the Minimum Billing Seconds is 30 and the Increment Billing Seconds is 6.

Monthly Line Rental - is the actual line rental charge you pay the telephone company each month. Do **not** confuse this with any bulk rates where you pay a flat rate for hours of usage.

Apply Monthly Rental to Calls at Month End - Allows a portion of the line rental charge discussed above to be added on to the cost of each call during the system's month-end cycle. This amount is only added once, at month end, to each call using this trunk and is therefore not desirable for hotel/motel

sites. The actual amount added is computed by dividing the Monthly Line Rental by the Total Number of Minutes of usage on this trunk. The resulting rate per minute is then added to the cost of each call using that trunk.

Rate Table Name - When special billing or discounting of calls is required (other than the regular DDD for your area), a special Auxiliary Rate Table can be ordered from your supplier. You may be required to supply billing information to aid in the creation of this table. Once you have received your table, a special rate table name may need to be added here to activate it. **A separate instruction sheet will accompany the table to help you.**

Discount File Name - is the name of the discount file (if any) to be used with the auxiliary rate table discussed above. **Instructions to activate both auxiliary rate tables and discount tables are supplied with the diskette.**

Discount Plans - are special bulk discount plans in addition to the regular DDD call discounts. The Discount Plans usually offer additional percentages off based on your monthly call volume. Instructions to activate these plans are sent separately. **Hotel/motel users do not usually want these special discount plans activated.**

Apply City Names - City names are normally applied to each call based on the telephone number dialed. However, this feature can be turned off if for any reason you do not wish city names to be added to calls placed over certain trunks.

Trunks can be complicated and time consuming to configure, depending on your company's requirements. Any changes to the Trunk file take effect immediately. You may "bulk add" ranges of trunk numbers by specifying the starting and ending trunk numbers and the increment.

Call Timers Table

Call Timers Table
(Professional Version Only)

Do I really need to read this section?

No, unless you wish to change the values in the Call Timers Table, otherwise the system will use the default settings already in the Call Timers Table. The default settings are recommended for normal use of the system. **If your telephone company provides Answer Supervision and your telephone system is capable of utilizing it, you should change all the values in the Call Timers Table to zero.**

What terms do I need to understand?

Answer supervision - is the signal that is sent back from the telephone that you are calling, when your call is answered. The telephone company receives this signal and uses it to determine whether the call should be billed. Without Answer Supervision you would be charged for calls that were unanswered or busy. Telephone companies seldom offer the Answer Supervision service to their customers without a charge and your telephone system may or may not be capable of detecting it anyway. If you don't have answer supervision (like most), the call duration reported by your switchboard in the raw records is the duration that the telephone receiver was actually off the hook and needs adjusting before any costing occurs. For this reason your system applies "Minimum Call Seconds" and "Ring Time Seconds" factors to help offset call billing inaccuracies caused by the lack of Answer Supervision.

Minimum Seconds - is the number of seconds that a call's duration must exceed before the system will consider the call to have been answered and thus be eligible for costing. This feature helps offset the lack of Answer Supervision (discussed above) because your switchboard will generate a call record regardless of whether the call was answered. It prevents the costing of short duration calls that have obviously been unanswered. If your telephone company provides you with Answer Supervision and your telephone system is capable of processing it, you should set the Minimum Seconds value to zero as the durations reported in the calls received from your switchboard will be the **actual** durations of the calls. Check with your telephone company and switchboard vendor if you are unsure.

Ring Seconds - is the number of seconds that will be subtracted from the call duration once a call has exceeded the Minimum Seconds threshold. The difference between Minimum Seconds and Ring Seconds is that Minimum Seconds determine whether a call should be costed and Ring Seconds is the amount of time to be subtracted from the reported call duration to allow for the called telephone to be answered. The Ring Seconds must be less than the Minimum Seconds value. If your telephone company provides you with Answer Supervision and your telephone system is capable of processing it, you should set the Ring Seconds value to zero as the durations reported in the calls received from your switchboard will be the **actual** durations of the calls. Check with your telephone company and switchboard vendor if you are unsure.

Some helpful hints…

The system will allow up to 9 different Call Timers Tables to be used simultaneously. This allows you to have completely different sets of call timers for different trunks or groups of trunks. For example, you may wish to have a different set of call timers for your Tie lines, where call set-up times are generally longer. For your convenience you can also specify individual table descriptions for easier tracking.

You will notice that different Minimum Call Seconds and Ring Time Seconds can be applied by call type category. This improves billing accuracy by allowing different timers to be used for incoming, local, long distance, overseas, fax machines, 900 and 800 service calls as the call set-up times for these categories can be significantly different depending on your calling patterns.

Any changes to the Timers Table take effect immediately.

Entering Surcharges & Taxes

Entering Surcharges and Taxes

Do I really need to read this section?

Absolutely! Completion of this section is CRITICAL. This section discusses how to enter the applicable taxes as well as any surcharges and markups you wish to use. Entering and maintaining tax and surcharge information is the sole responsibility of the system user. **FAILURE TO COMPLETE THIS SECTION CORRECTLY CAN RESULT IN LOSS OF REVENUE IF THE SYSTEM IS USED FOR CHARGE- BACK PURPOSES!**

How do Surcharges, Markups and Taxes work?

Many companies, such as lawyers, accountants, and **definitely motels and hotels**, add surcharges and markups to their calls to generate revenue by reselling long distance services. Taxes must also be added, sometimes to just the basic cost of the call and sometimes to the surcharges and markups as well. In some areas, taxes are added on top of other taxes yielding a compounding tax effect. Check your local laws.

This system features **extremely powerful** Surcharge, Markup and Tax tables that allow virtually any combination of surcharges, markups and taxes to be applied. Different Surcharges, Markups and Taxes

can be applied to different call categories (e.g. DDD, Operator Assisted, etc.). Also, **up to 9 different tables** can be used simultaneously. Different tables can be applied based on the extension number, trunk number, dialed number or account code found in each call record. **Where a conflict exists, the surcharge table with the highest number is given priority and used.**

Hotel & motel users should use Surcharge and Tax Table #1 for guest phones and Table #2 for administration phones because that is the default setting. General business sites will probably only use Table #1, unless different amounts are to be applied based on extension number, trunk number, account code, or dialed number.

What terms do I need to understand?

Basic Call Cost - is the primary cost of the call computed from the system's internal rate tables, excluding any surcharges or taxes. Typically, Local (within your free calling area), Incoming, Operator Assisted, 800 and 900 Service calls would have a basic call cost of zero. If you decided to charge for these calls, you must enter your surcharge and markup amounts next to the appropriate call category. IF YOU DECIDE NOT TO USE ANY SURCHARGES OR MARKUPS BUT YOU WANT TO APPLY TAXES, YOU WOULD ONLY FILL IN THE TAX ROW(S) OPPOSITE THE BASIC CALL COST ENTRY IN THE TABLE.

Local Calls - if free, have a basic call cost of zero and are dropped by the system, unless any surcharges and markups are specified. If you decide to cost Local Calls you should consider the following important points:

1. You may require a larger hard disk to accommodate the higher volume of calls that will be retained by the system.

2. Your switchboard must be programmed to generate records for local calls so they can be processed by the system.

3. If you live in an area where local calls are billed by the telephone company, they will be automatically billed and retained by the system.

Long Distance Calls - are typically DDD calls or 1+ calls. The basic call cost for these calls is automatically calculated using internal rate tables or user supplied rates. If you wish to apply any surcharges or markups over the basic DDD cost, specify them in the table beside the "Long Distance DDD" table entry. Remember to specify any applicable taxes that apply to the surcharge and markup amounts there as well.

Operator-assisted (0+ telephone number) - These calls are not billed by the system because it is impossible to determine whether these calls were collect, person to person, third party billed, etc. Therefore, these calls have a basic call cost of zero. Normally, these calls are retained by the system and appear on the reports with a cost of zero. However, the system permits surcharges and markups to be added to all operator-assisted calls.

Overseas Calls - all DDD overseas calls (011+) (North America) are automatically billed by the system using internal rate tables. Any operator-assisted overseas calls (01+) (North America) are billed at zero (by default) in the same manner as Operator Assisted, unless any surcharges or markups are specified. If you wish to apply any surcharges or markups over the basic call cost, specify them in the table. Remember to specify any applicable taxes that apply to the surcharge and markup amounts.

Directory Assistance Charge - is a service charge applied to 411 calls. In some areas you are also charged for long distance directory assistance (555-1212). If you wish 411 and 555-1212 calls to be costed by your system, you must enter the charge into the system. Enter "0" as the Directory Assistance Charge if you wish the system to ignore and discard these calls. Remember to specify any applicable taxes.

800 and 900 Service Calls - are billed by the system at zero (by default) unless any surcharges or markups are specified. Remember to specify any applicable taxes that apply to the surcharge and markup amounts.

Maximum Surcharge and Markup Ceiling - is a user-determined dollar amount that any combined surcharges and markups will not exceed. The purpose of this maximum ceiling is to avoid excessive markups on exceptionally long telephone calls.

Surcharge per Call - is a user-determined flat surcharge that will be added to each call regardless of its length. If you plan to use both the Call Percentage Markup and the Surcharge per Call or Surcharge per Minute features together, the system applies the percentage markup first, followed by the surcharges.

First Per Minute Surcharge - is a user-determined flat surcharge that will be added to **each** minute of the call's duration up to the number of minutes specified in the *Minutes to Apply Surcharge #1*. If you plan to use both the Call Percentage Markup and the Surcharge per Call or Surcharge per Minute features together, the system applies the percentage markup first, followed by the surcharges.

Minutes to Apply Surcharge #1 - is the user-specified number of minutes that the *First Per Minute Surcharge* will be applied. Leaving this field blank forces the system to apply the *First Per Minute Surcharge* to every minute of the call's duration.

Second Per Minute Surcharge - is a user-determined flat surcharge that will be added to **each** minute of the call's duration after the first surcharge threshold has been exceeded up and to the number of minutes specified in the *Minutes to Apply Surcharge #2*. If you plan to use both the Call Percentage Markup and the Surcharge per Call or Surcharge per Minute features together, the system applies the percentage markup first, followed by the surcharges.

Minutes to Apply Surcharge #2 - is the user-specified number of minutes that the *Second Per Minute Surcharge* will be applied. Leaving this field blank forces the system to apply the *First Per Minute Surcharge* to every remaining minute of the call's duration.

Percentage Markup - is a user-determined percentage markup added to the basic call cost of each call. If you select a negative (-) markup, the call will be discounted by the amount specified (i.e. -15 means 15% discount over the regular rates). Different Percentage Markups can be used depending on call type (e.g. local, incoming, long distance, operator assisted, overseas, directory assisted, 800 and 900 service calls). If you plan to use both a Call Percentage Markup and the Surcharge per Call or Surcharge per Minute features together, the system applies the percentage markup first, followed by the surcharges.

Tax 1, Tax 2, and Tax 3 - are the government-determined tax rates you are charged for your telephone calls. **The rates used in your system's rate tables do NOT include any taxes.** Therefore, you must determine and enter the appropriate tax rates for your area into the system. The system features 3 levels of taxation. If taxes only apply to the basic call cost and not any surcharges or markups, simply enter the tax rates in the Basic Call Cost row on the Surcharge and Taxes screen. If taxes apply to the surcharges and markups, fill in the rest of the tax columns as required.

Apply Tax on Tax - in some locations taxes are added on top of other taxes, resulting in a compounding tax rate. To accommodate these instances simply activate the apply Tax 2 to Tax 1 and/or the apply Tax 3 to Tax 2 indicators as required.

Surcharges, Markups and Taxes take effect immediately.

Entering the Equipment List

Entering the Equipment List

Do I really need to read this section?

Only if you want to use the Equipment Inventory Package. If you wish to inventory and trace any telephone equipment or features to individual extensions for cost allocation purposes, then you should complete this section prior to entering any extension information.

How does it work?

In medium to large size companies, tracking and controlling your inventory of telephone equipment can be difficult. Without some means of recording "who has what" you can quickly lose track of how the telephone equipment has been allocated. Keeping manual records on paper is a very time-consuming job that is often forgotten. Your records soon become outdated.

This Equipment Inventory package allows you to control the distribution of your telephone equipment and calling features for individual extensions. Common Equipment inventory may be recorded as well. Virtually any feature, equipment item, etc. can be associated with a particular extension(s) or just considered common equipment shared by all extensions. Customized equipment reports can then be generated. The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

If your system is new, then as you build the extension file you will identify the equipment or features associated with that extension. If you are adding the Equipment Inventory later then you will have to go back and add the equipment codes to your existing extension file entries.

What terms do I need to understand?

Equipment code - an abbreviation that will be used internally to identify the various **equipment items** or **calling features**. This code is set by the user. It may be up to 6 alpha numeric characters long.

Equipment description - is the actual alpha numeric description for each equipment code that you have specified. It can record equipment, calling features or any other information that your desire.

Comments - is a miscellaneous field that can be used for any comments, serial numbers or other relevant information.

Equipment cost - is the actual cost of the unit.

Monthly cost - is a monthly amount to be charged to each extension that has this particular piece of equipment or calling feature. The system will then automatically include, in the extension's equipment charge, any monthly charges for the item(s) that you have specified in the equipment file.

Common Equipment indicator - The system will track whether the equipment is common to all extensions or not.

Total quantity - is the total quantity of each equipment item, including inventoried and distributed equipment. This amount is determined by the user.

Quantity Distributed - is the number of each inventoried item that you have actually allocated to different extensions. This amount is automatically calculated by the system from the equipment list you build for each extension.

Entering Extension Information

Entering Extension Information

Do I really need to read this section?

Probably not, because entering extension information is relatively simple if you follow the instructions on the screen. However, you may want to refer back here for answers to any questions. If you choose

not to enter any extension information, all your extensions will be "**Unassigned**". Calls are still allocated to each extension and will appear on your reports, but are allocated to the unassigned division and department. Also, hourly extension traffic will not be reported for unassigned extensions unless at least one call has been retained by the system for that extension. If you wish, this information can be added at a later time. The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

> **A note from the author:** This section discusses some very powerful features. The system was designed to work in hotel/motels as well as companies ranging from a few to thousands of extensions using multiple names, authorization codes, email addresses, fax machines, telephone equipment charge allocation, etc. Hence this documentation is designed to provide instructions to all those different user categories. The system is so powerful and flexible it is impossible to explain all the different ways things could be set up. Therefore general guidelines are provided, but your imagination is the only limitation here. You may wish to read this entire section once to familiarize yourself with the potential of the system. Then go back and selectively extract the areas you intend to use. **This concept is especially important as many users will use the system for years without having any idea of the power it has.** If you have a specific question about the feasibility of some set-up, contact your system dealer for more information. In many cases our users have come up with ideas that we have been able to share with others. If you don't understand a concept that is being explained, don't worry, it just means that feature is probably not applicable to your situation.

If you have purchased our switch maintenance package for performing Moves, Adds and Changes to Nortel PABX's then extension information can be exchanged between packages without the need for dual entry.

This section is split into two parts. Part 1 deals with your company's hierarchy and how to set it up. Part 2 deals with setting up each individual extension.

How do I build my company's hierarchy tree?

Your company's hierarchy (Division, Department, Cost Centre, etc.) must be entered into the system first before entering any extension information. Typically this involves determining how many levels of hierarchy you require and what the *chain of command* is (ie. which departments report to which divisions), and then entering this information into the system. The system supports up to six levels of hierarchy if required. So in addition to determining what departments the extensions belong to, you will also need to determine which levels of hierarchy fall under each other. Although the names "Department" and "Division" are set as defaults and used in this documentation for illustration purposes, you can rename those hierarchy level names to whatever you like (ie. Site, Cost Center, etc.)

The system is structured to generate reports on as many as six levels of hierarchy. Most users will only use one or two levels and can ignore the other levels offered. For sake of explanation we have labeled each level as shown below, but you can pick your own names for each level. The potential hierarchy levels are:

The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

Level	**Report Contents**
Corporate	- Summation of all Division totals
Division	- Summation of all Department totals
Department	- Summation of all Sub-Department totals
Sub-Department	- Summation of all Cost Center totals
Cost Center	- Summation of all Extension totals

Extension - Summation of each individual call

In addition to defining the levels, you will be required to assign a 7-digit alpha numeric code and an alphabetic name to each individual Division, Department, etc. Although the system carries and reports the alphabetic names of each Division, Department etc. that you designate, it relies on the codes for the internal sorting and allocating of calls throughout your company hierarchy. **We strongly recommend you do NOT use the same code for different levels of hierarchy.** You can also use your own names to identify each level (e.g. Region, Branch, etc. rather than Department, Division).

If you have your own internal codes you may wish to use them providing they do not exceed 7 alpha numeric characters. Otherwise you can incorporate them into the Division, Department, etc. names as they can be up to 20 alpha numeric characters.

To configure your levels of hierarchy simply bring up the information for an extension and click the <Change> button next to the department name.

Terms for Entering Hierarchy Labels - Level 0,1,2,3,4,5 - enter your hierarchy level names (such as branch, cost center, etc.) if you want to use names different than the Department, Division default names. If you wish to add a new level then enter the next unused hierarchy level name. If you wish to delete a level then simply delete the hierarchy level name.

Terms for Adding your Divisions and Departments - Under the **Add new level** you must enter your Department and Division names prior to entering any Extension names. Select the hierarchy level **Type** of the entry you are entering (for example Level 1 which is for your Sales Department). Then enter the 7 character code and the alpha name that describes this entry. Complete this until all departments and divisions and any additional levels of hierarchy are entered. Then you can proceed to enter your individual extension names and information.

How do I configure my Extensions?

Each Extension connected to your company's switchboard can be identified to the system so correct cost allocation can occur. Typically this involves defining each Extension name, number and other relevant information and identifying which Cost Center, Department, Division, etc. that Extension is assigned to. You can set up anywhere from one to four levels of hierarchy reporting as discussed above (e.g. Cost Center, Sub-Department, Department, Division) and you can assign numerous names to a single extension for company directory purposes. **Hotel/Motel versions need only define their administration phones as the software treats all extensions as hotel guest phones using Surcharge and Tax Table #1 by default!**

In addition to the Extension name and number, the system allows an optional Equipment Charge to be applied to each Extension. This Equipment Charge is computed from the Equipment List assigned to each extension. The Equipment Charge is automatically included on reports generated by the system. The use of the Equipment Charge is optional. If you plan to use it, you should have completed **Entering Equipment List** first.

The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

What terms do I need to understand?

General Extension terms that apply to the entire extension number:

Division, Department, Sub-Department, Cost Centre Codes - optional but must be used if any hierarchy is assigned. These codes are used internally by the system to sort and allocate the charges. You must assign a **unique** code for each division, department, etc. Up to 7 alpha numeric characters can be used for each code. **To avoid confusion, do not reuse codes for different levels of**

hierarchy or use codes that conflict with extension numbers. Use of any company hierarchy is optional, if none is used all extensions are summarized under "Unassigned Department and Division" by default.

Division, Department, Sub-Department, Cost Centre Name - optional but must be used if the div., dept., etc. codes are used. Use alpha-numeric characters to describe the names of each division, department, cost centre, etc. that makes up your company's hierarchy. These names will be printed on your reports.

Extension Number - The actual Extension Number assigned by your switchboard. The system permits Extension Numbers to be up to seven alpha numeric characters. Any letters reported in the extension number received from your switchboard are normally stripped off. For example, your switchboard may report Extension number 4401 as DN4401. When you entering the information into the system, DN4401 must be entered as just 4401. Identifying any extension names or numbers to the system is optional. **If not identified, the system will still track calls for the extensions. Hourly traffic information may not be printed, as discussed earlier in this section.** You can always go back at a later time and assign extensions.

Extension type (optional) - is used to determine what type of extension this really is. You can distinguish between Normal extensions, Hotel Room extensions, Fax Machines and Telephone Trunks. This is important in some cases because:

> **Hotel rooms** - when configuring the PMS interface you may wish to only send calls made from hotel rooms to your PMS system, thus excluding calls from administration extensions.
>
> **Fax machines** - by defining any local as a fax machine you can have separate Call Timer values (Ring Seconds and Minimum Seconds) apply to calls made from this "extension" number. This is useful because normally the call set-up times are longer for fax machines. Using this feature will stop the billing of "busy, retry" calls.
>
> **Trunks** - some users may wish to actually assign a trunk to a particular division, department, etc., especially if they have branch offices whose long distance calls are routed through one central switchboard. This provides a means for allocating long distance charges back to that branch.

Surcharge table (optional) - is the *Surcharge & Taxes* table number (1 through 9) that you wish calls placed by this extension to be charged.

Equipment Charge (optional) - is a charge automatically determined from the Equipment List you have itemized for each extension. You must have completed your master equipment inventory list and allocated the appropriate equipment to each extension for this feature to work. The system will then **automatically compute the correct equipment charge for each extension** based on the equipment you have allocated to it.

Bill Calls to (optional) - is the extension number (if different) you actually want the calls to be billed to. This feature is especially useful in Hotels/Motels where more than one extension exists in a single hotel room or the extension numbers are prefixed with a 7 that needs to be removed. This feature ensures all calls from both extensions get charged to the single correct extension number so only one **Checkout Report** needs to be generated. Although this feature is primarily used in hotels, it can be used anywhere you wish calls to be billed to an alternate extension number. The system defaults to billing a call to the original extension placing the call as reported in the raw call records. **IF THE ORIGINAL EXTENSION AND THE BILL-TO EXTENSION POINT TO DIFFERENT SURCHARGE AND TAX TABLES, REMEMBER THE HIGHEST SURCHARGE AND TAX TABLE NUMBER GETS APPLIED. The original extension no. the call was placed from also appears on your reports.**

Comments general (optional) - is a 40 character alpha numeric miscellaneous editorial created by you. Typically this comment field would contain information that would be common to the *primary* and any *secondary* extension names. (ie. Room Names or Numbers, etc.)

Equipment Codes (optional) - is the six-character code describing each different equipment piece or calling feature to be allocated to this extension. You must have completed **"Entering Equipment List"** before you can use this feature.

Switch Maintenance Interface - synchronize Options - If you have purchased our switch maintenance package for performing Moves, Adds and Changes to Nortel PABX's then extension information can be exchanged between packages without the need for dual entry. You can select:

- **Do nothing** - where information is not shared for this extension between the Switch Maintenance and Call Accounting packages.
- **Import from MAC Package** - where extension name information is obtained from the CPND (Calling Party Name Display) in the Nortel PABX for this extension
- **Export to MAC Package** - where Primary Extension Name information is exported to the switch maintenance package for updating the CPND in the Nortel PABX.

It also shows you the current CPND name for this extension in the Nortel switch for your convenience.

Extension terms that apply to only to the individual primary or secondary name:

Extension Name (Primary and Secondary) - can consists of up to 20 alpha numeric characters that make up the person's name or job description. Use of the name is optional but is recommended, especially if you are using any of the other features discussed in this section. If you have more than one person assigned to an extension and wish to print company directories showing everyone, simply click the Extension information <Add> button and enter the additional extension name(s) and information pertaining to them that you are tracking.

Authorization Code (optional) - is the Authorization Code (if any) that belongs to the person assigned to this extension. This feature allows people to move around your company making calls from any extension, knowing it will be charged back to their "home" extension. However, they must enter their personal Authorization Code into the telephone system each time they place a long distance call. This feature ensures correct cost allocation to the appropriate extension, department, division, etc. regardless of which extension was used to place the call. The original extension no. the call was placed from also appears on the reports. The software supports up to 14- character Authorization Codes.

Email Address is an optional field that contains the email address (if any) of this extension entry.

Comments individual (optional) - is a 40 character alpha numeric miscellaneous editorial created by you. Typically this comment field would contain information that would only pertain to the individual *primary* and any *secondary* extension name.

Description and Value fields are user determined fields (up to 10 different ones) that can be used to enter additional information about each individual extension name. You determine the label name to be used under the Description column (such as Home Phone No., etc.) and also the information entered into the Value field. The Description Label once entered is common to all extension names.

Some helpful hints...

1. If this is a hotel or motel installation all extensions will default to extension type **"Hotel"** (for hotel room). Although it is advisable but not necessary to define each "hotel room extension" in the system, you must at least identify the administration extensions, especially if you have a Property Management System (PMS) and you only wish calls placed from hotel rooms to be transmitted and posted to the PMS. Setting the extension type allows the system to determine which calls are placed from hotel rooms. If you plan to use a Surcharge & Tax table number other than #1 for your hotel room phones, then you must enter ALL the hotel room extension numbers and indicate the Surcharge and Tax Table you wish to use.

2. **If you wish to change the names of the levels of hierarchy, you should do it when entering the first extension's information.** See above instructions for entering your hierarchy levels.

3. **If you do not require any levels of hierarchy, or you wish to remove any level(s), then YOU MUST DO IT WHEN THE FIRST EXTENSION NUMBER'S INFORMATION IS ENTERED INTO THE SYSTEM!** See above instructions for entering your hierarchy levels.

4. **If you wish to ADD additional levels of hierarchy, IT SHOULD BE DONE WHEN YOU ENTER THE FIRST EXTENSION NUMBER'S INFORMATION INTO THE SYSTEM TO AVOID A TIME-CONSUMING JOB LATER!** See above for instructions on entering your hierarchy levels. (Remember this is the name of the level of hierarchy you will be adding, like Cost Centre, Branch, etc., NOT the actual names of your departments and divisions, like "Sales" or "Accounting". They are added below.)

5. Although it is strongly recommended to be done initially, levels of hierarchy can be added later. Simply follow the steps above. All extensions currently assigned in the system will automatically fall under the new level you created. You must then go back and assign each extension to the new level, using the **CHANGE** command. This can take considerable time to do, so try to plan ahead when creating your hierarchy structure.

6. After you have entered your company hierarchy you can easily assign your extensions to the appropriate Department by clicking on the name in the tree you have built.

7. Any changes to the Extension File take effect immediately. If you are changing the hierarchy that a particular extension is assigned to (e.g. moving an extension to a different department) then all calls from the beginning of the current reporting period will be re-allocated based on your current changes. Previous reporting periods must be re-cost if you require these changes to be retro-active.

Entering Dialed Digits Information

Entering Dialed Digits Information

Do I really need to read this section?

No, unless special billing or handling is required for a particular telephone number. Normally you would contact your support center before making any entries here. **It is critical the features discussed in this section be completed correctly as serious call billing errors could result!**

How does it work?

The Dialed Digits feature provides you with three extremely powerful tools:

1. It allows you to optionally change the actual dialed digits, reported in the call records, from one telephone number to another. The call is then billed according to the replacement telephone number. This feature is especially useful when used with switchboards that report only "speed call" codes instead of the actual telephone number.

2. It allows you to specify a special Surcharge, Markup and Tax Table to be used when billing particular telephone numbers.

3. It allows you to specify special call billing rates for specific telephone numbers, Area Codes, States or Provinces, or Countries. These special rates will be used instead of the ones contained in your system's rate table. So, basically this feature allows you to create your own custom rate table that over-rides the system's rate table when billing specific telephone numbers.

This screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use

the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

What terms do I need to understand?

Original Dialed Digits - is the actual telephone number or speed call code reported by your switchboard in the raw call records, minus any access codes (like 9, 82 etc.) but including any dialing prefixes like 0 or 1. It can also contain the 2 character state/province abbreviation (like TX, WA, BC) or three character country abbreviation (like USA, CAN, CBI) that you want the rates entered into this table to apply to.

Replacement Digits (optional) - is the actual telephone number or portion thereof that you want to use as the replacement number. The call is then billed according to the Replacement Digits. If this field is skipped the original dialled number will be left intact as is.

Apply on Full or Partial Match (optional) - this option determines whether the special handling you specify here will be performed on all numbers containing an exact, or just a partial match (leftmost digits) of the Original Dialed Digits specified above. By specifying a partial match you can process calls that begin with certain digits, e.g. 1900xxxxxxx.

Replace Leading Digits (optional) - this option allows just the leading digits of the original dialed number to be replaced with the replacement digits and the rest of the number is left intact. The number of replacement digits specified determines how many of the original digits are replaced.

Surcharges Table Number - if you wish to use a special Surcharge, Markup and Tax table then simply select the appropriate table that you wish to use. Ensure you enter the Surcharges and Taxes you wish to use into the appropriate Surcharge Table.

First Interval Rate (cents) (optional) - is the rate (in cents) you wish to bill calls based on the Original or Replacement digits discussed above, for the first period of time (normally 60 seconds). This feature allows you to charge a different rate for the first time period (minute) if desired. Some carriers may charge more for the first time period (minute) than each subsequent time period (minute). For your information, the difference between the first and second interval rates is referred to as a "Message Charge" or "Call Set-up Charge" and is not too commonly used now.

First Interval Length (seconds) (optional but **must be used** if a First Interval Rate has been specified) - is the number of seconds in the first billing interval. Typically the first interval length is 60 seconds, unless your long distance carrier or you wish to bill calls using some other interval like 30 or 6 seconds.

Second Interval Rate (cents) (optional) - is the rate (in cents) you wish to bill calls based on the Original or Replacement digits discussed above, for the second period of time (normally 60 seconds). This feature allows you to charge a different rate for each additional time period (minute) if desired. Many telephone companies charge less for the second time periods (minute) than the first.

Second Interval Length (seconds) (optional but **must be used** if a Second Interval Rate has been specified) - is the number of seconds in the second billing interval. Typically the second interval length is 60 seconds, unless your long distance carrier or you wish to bill calls using some other interval like 30 or 6 seconds.

Minimum Charge (optional) - is the minimum amount that the call will be billed regardless of the actual calculated cost of the call. For example a call lasting 1 minute would normally be billed at 45 cents. But after all time-of-day discounts were calculated, the call is actually billed at 23 cents. With a minimum Charge of 35 cents specified, the call will be billed at 35 cents rather than 23 cents. Some long distance carriers use "minimum charge" amounts when billing calls.

Discount Table Number (optional) - is the table number containing the time-of-day discounts you wish to use. These discount tables are created by the system user. Refer to **"Setting Hourly Discounts"** for further information. Leave this set to **0 (or blank)** if hourly discounts are not required for your custom rate table.

Discount Message Charge (optional) - the "Message Charge" (or Call Set-up Charge) is simply the difference between the first minute and second minute rates. Typically, the "Message Charge" is added onto the cost of the first minute, usually making the first minute of your call more expensive. Some long distance carriers do not use "Message Charges" or "Call Set-up Charges". However, if they are used, some carriers do not discount the "Message Charges" or "Set-up Charges" when applying any time-of-day discounts. This feature allows you to control the discounting of those charges.

Local Call Flag (optional) - is used internally by the system to determine whether this call is in your local calling area. You should use this feature to specify whether the number you have entered is to be treated as a local call.

Applicable Trunk Type (optional) - is the specific Trunk Type category (if any) that you want this entry to apply to. This entry defaults to **All** trunk types. See **"Entering Trunk Information"** for further information on Trunk categories.

Any Dialed Digits changes take effect immediately.

Entering Account Code Information

Entering Account Code Information
(Professional Version Only)

Do I really need to read this section?

No, unless you require special Surcharges & Taxes be applied to certain Account Codes or you wish to substitute on your reports the actual account code with a user-defined name. Please do not confuse Account Codes with Authorization Codes because the system treats them separately..

What are Account Codes?

Some telephone systems are equipped with a feature that allows an Account Code to be entered at the time a call is dialed. Typically this Account Code is the client or project number that the call is to be charged to. This feature is used extensively by accountants and lawyers who perform client bill-back.

Another similar feature found in telephone systems is the ability to enter a personal *Authorization Code* when placing a call. The *Authorization Code* is used by the telephone system to allow you access to long distance calling. These two features are treated separately even though most telephone systems do not differentiate between *Authorization* and *Account Codes* in their call detail information. In most telephone systems, they are reported exactly the same, sharing exactly the same field in the raw call detail records.

The screen allows you to sort the list by column headings and to search for a specific value. To search for a specific value, enter the value (partial matches are applied) and click search. You can then use the column headings to sort your search results. Clicking clear removes the search criteria and displays the entire list.

Account Code handling is the topic covered in this section. Refer to **"Entering Extension Information"** for details on special *Authorization Code* handling. You must determine which of the two applications applies to you, then complete the appropriate section in the manual.

What terms do I need to understand?

Original Account Code - is the actual Account Code (typically numeric) that the user dials when placing the call. This number is reported exactly as dialed by the user in the raw call detail records collected by the system. The system can handle variable length alpha-numeric Account Codes up to 14 digits.

Replacement Account Code (optional) - is the replacement alpha numeric Account Code, up to 14 characters in length, that you wish to appear on your reports. This feature allows you to replace the project, client, or employee account number with an actual alpha-numeric name.

Apply on Partial Match (optional) - allows the Replacement Account Code value to be substituted even on a partial (left-to-right) match of the Original Account Code. For example, if an Original Account Code was entered as "1234" and a Replacement Account Code was defined as "ABC Company", and "Apply on partial match" was desired; all Account Codes starting with "1234" (like 12349876, 12346654, etc.) would be changed to "ABC Company", regardless of any extra trailing Account Code digits. This feature is commonly used with lawyers and accountants where part of the Account Code they enter is the client number and part is the matter number.

Replace Leading Digits (optional) - this option allows just the leading digits of the original account code to be replaced with the replacement digits and the rest of the number is left intact. The number of replacement digits specified determines how many of the original digits are replaced.

Surcharge Table Number (optional) - allows a special Surcharge and Tax table to be applied when billing a call record containing this account code. Remember the higher the Surcharge table number (1-9) the higher the priority of the Surcharge table over other tables that may qualify.

Any Account Code changes take effect immediately.

Capture All Calls Feature

Capture All Calls Feature
(Professional Version Only)

Do I really need to read this section?

No, the system defaults to always storing Long Distance outgoing calls. If you want local, incoming, or incomplete calls (normally billed at zero and dropped by the system) to be retained for reporting purposes, then you must complete this section. **A common mistake is that users assume that the Capture All Calls feature must be turned ON in order for the Traffic Reports to collect all call data. This is false as Traffic Statistics are accumulated regardless!**

How does it work?

In addition to saving long distance calls, the system can capture Local, Incoming or All call information using the **"Capture All Calls"** feature. The **"Capture All Calls"** feature allows retaining of local, incoming, or all call's information in addition to long distance, for ALL extensions or any preselected mixture of extensions, trunks, and divisions or departments. This feature will only work if your switchboard has been programmed to report call detail records on **ALL** calls, whether local, incoming and long distance. This feature is especially useful for performing "random checks" throughout the month on extension or trunk activity. You may wish to ignore this feature until after your system has been operational for a while.

Helpful hints…

Remember when using this option you will use more hard disk space to store the extra calls being retained by your system. Generally if only a few extensions are affected, the additional storage requirements will be nominal. However, if you wish to use this feature for "all" (e.g.. several hundred) extensions you should ensure you have enough free disk space for the extra call storage.

Remember, your switchboard must be configured to send ALL call detail information before this feature will operate properly.

What terms do I need to understand?

Keep Local Calls - Activating this feature will force the system to store local outgoing calls for reporting purposes. Local calls are normally not stored by the system unless there is a charge associated with them.

Keep Incoming Calls - Activating this feature will force the system to store incoming calls for reporting purposes. Incoming calls are normally not stored by the system unless there is a charge associated with them.

Keep Everything - Activating this feature will force the system to store absolutely everything for reporting purposes. In addition to storing incoming and local calls, the system will store extension-to-extension calls (when available from your switchboard), and calls that were misdialed or too short for billing purposes.

Capture the Calls from ALL Extensions - if this feature is activated the system will save the call types discussed above for ALL extensions.

Capture Selectively as Specified - you must specify the extension number(s), and/or trunk number(s) and/or department numbers or names that you wish to capture these calls for. Any combination of extensions, trunks, or departments can be selected.

Installing Updates

Installing Updates

We offer a Maintenance Subscription Service where system enhancements, updates and new V+H Call Rate Tables are sent to you regularly on diskette. Rates are constantly changing and new area/exchange codes are continuously being added. This service ensures your system never becomes obsolete or outdated and reflects changes to the computer and telecommunications technologies.

When installing updates follow the instruction sheet included with your update disk(s).

Performing Monthends

Performing Monthends & Deleting Previous Call Data

Do I really need to read this section?

Yes. Monthends are required to close off call accumulation files for a specific period and open fresh files for the next period. Basically you have two options. You can have Monthends performed automatically the same day each month without any user involvement, or you can initiate Monthend processing on demand by specifying the starting and ending dates.

How do Automatic Monthends work?

Automatic Monthends are performed automatically each month on the day you have specified. No user involvement is required for these cycles to run. Simply specify the date and ensure your computer is left running the night the Automatic Monthend cycle is to be performed. Automatic Monthends work well for users who are not concerned with telephone bill reconciliation, or for users whose telephone companies use a consistent cut-off date each month when preparing a bill.

Enable Automatic Monthends: if you wish to use the Automatic Monthend feature, this must feature must be activated.

Automatic Monthend Date: Simply select the day of the month you wish to be the last day of each reporting period. A new file will be opened immediately to collect the data for the next reporting period. Before you choose your Monthend date you should consider the following important points:

1. You may wish to set the month end date so it aligns with your telephone company's billing date.

2. Never select **29, 30, or 31** as your Monthend date because these dates do not occur in some months.

The Automatic Monthend cycle will happen during the midnight cycle **AT MIDNIGHT ON THE DATE YOU HAVE SPECIFIED SO ENSURE YOUR PC IS LEFT RUNNING OVERNIGHT SO THIS CYCLE CAN EXECUTE!**

How do Manual Monthends work?

Manual Monthends can be performed at any time by simply specifying the Period Starting and Ending dates you wish to use. The system will perform a Monthend using the dates you entered manually either right now or at the next midnight cycle.

Another important feature with Manual Monthends is that it can be used to "over-ride" your Automatic Monthends if required. For example, in the event you are using Automatic Monthends and for some reason your system fails to perform your Automatic Monthend (e.g. the computer was turned OFF that night), you can manually force a Monthend by specifying the Period Starting and Ending dates.

When performing Manual Monthends, any call data occurring AFTER the specified "Period Ending Date" will remain in the current month's call accumulation file. Any call data occurring BEFORE the specified "Period Starting Date" will be stored in a separate previous month file.

How do I Delete Previous Months' Call Data?

By default, the system does not automatically delete any previous or current month's call data files. Normally you must manually select the periods you wish to delete.

However, you can optionally specify the number of month's of call data you wish the system to retain using the feature "**Number of monthends to keep**". The oldest call record files are then deleted automatically during the month end cycle so as not to exceed the maximum number of months you wish to retain in your system.

Before deleting any call data files you may wish to "archive" those old call files using a tape drive or some other backup software, so they can be put back into the system at a later time if additional reporting is required.

The Call accumulation file names are:

CURR.* - contains today's calls only
CR000000.* - contains current month's calls except today's
Cryymmdd.* - contains call data for a previous period.
CURRTRAF.* - contains current days call traffic peg counts
TR000000.* - contains current month's call traffic peg counts
Tryymmdd.* - contains traffic peg counts for a previous period

Create / Restore Backup Copies

Create / Restore Backup Copies

Do I really need to read this section?

Absolutely! After entering your configuration information or making any changes to it, **YOU MUST TAKE A BACKUP COPY OF THE CRITICAL CONFIGURATION FILES AND STORE IT IN A SAFE PLACE.** If you have to reload your system's software, these backups can save you an enormous amount of time, money and frustration. You can backup these files to a floppy disk, CD or a network drive by simply specifying the drive letter.

Note: The call record files are not backed up by the system because of their potential size. A tape drive, backup or compression programs can be purchased to back up these files if desired. The call record file names are:

CURR.*	- today's calls
CURRTRAF.*	- today's traffic data
CR000000.*	- current month's calls except today
TR000000.*	- current month's traffic data except today
Cryymmdd.*	- previous months' calls, yymmdd is the cut-off date
Tryymmdd.*	- previous months' traffic data

When the desired files have been backed up ensure you store the backup media in a safe place. Repeat for each site in a Polling, Multi-tenant or Multi-switch version.

Setting Hourly Discounts

Setting Hourly Discounts

Do I really need to read this section?

No, unless you wish to create your own customized discount tables to be applied when billing your calls.

How does it work?

These optional **Discount Tables** are over-ride tables containing the time-of-day discounts (percentages) you wish to use instead of the ones included with your system. Up to 9 different tables can be created. These discount tables are created by the system user and allow different discounts to be specified by hour of day, and day of week. Simply enter the desired discount percentage for the appropriate period.

To activate these tables you need to refer to the **Entering Dialed Digits**, *Discount Table Number* section. Use the settings in that screen to activate these discount tables based on the dialed number or the state/province/country abbreviation codes. Then simply specify the table number in the *Discount Table Number* field.

Setting Access Codes

Setting Access Codes

Do I really need to read this section?

Absolutely, especially if your switchboard is a Nortel PABX series, or any other make where the access codes are attached directly to the front of the dialed number. Completion of this section is also important if you have any type of special access codes you dial to route your call. **IT IS IMPORTANT THAT YOU ENTER ALL ACCESS CODES SO THE SYSTEM CAN RECOGNIZE THEM WHEN THEY APPEAR IN THE RAW CALL RECORDS. FAILURE TO DO SO WILL MOST DEFINITELY RESULT IN CALL BILLING ERRORS! YOU MUST IGNORE THIS SECTION IF THE ACCESS CODES ARE NOT ATTACHED DIRECTLY TO THE FRONT OF THE DIALED NUMBER!**

Although you can enable or disable the printing of access codes on your reports we highly recommend you do not change this setting unless you have discussed your requirements with technical support staff. The default setting is to **suppress** the printing of access codes. Changing this setting to *Keep Access Codes* is NOT retro-active as the system normally discards them.

Setting Data Collection Parameters

Setting Data Collection Parameters

Do I really need to read this section?

Yes, if you are setting up the port(s) used by your system for collecting raw call information from your telephone system, or if you are installing a Two-Switchboard version or an optional Buffer Box.

How does it work?

Due to the ever increasing methods employed by telephone system manufacturers of sending CDR information from their telephone equipment, we have enhanced our programs to accept call data from numerous different sources and methods. A brief explanation of the *Set Data Collection Parameters* screen follows.

This section discusses how to set up the serial port(s), TCP/IP ports, Nortel BCM, Cisco or other custom collection programs or a remote GCOM (collection program) to be used by your system for collecting raw call information. The items discussed below apply to both "Primary" and "Secondary" data collection ports. If you are collecting call data from only one source (your switchboard) then you can completely ignore any references to the "Secondary Port". However, if you have purchased the **"Internet Useage Interface"** or **"Multi-Switchboard"** options that require a second port for call collection you may be required to activate the "Secondary Port". Also refer to separate installation instructions for Buffer boxes, and the *Appendices* in this manual for more information when installing *Multi-Switchboard* versions and the *Internet Usage* option for more information.

What terms do I need to understand?

Primary Port - is the port used by the system to collect raw call data from your phone system. Either serial, TCP/IP, Nortel BCM , Cisco or custom programs, or a remote GCOM can be used depending on your telephone system. Special instructions for configuring your collection port may accompany your CD depending on your telephone system's make and model.

Secondary Port Number - this is the second optional port used by the system to collect call data from a second switchboard (Multi-Switchboard version) or Internet Usage from an Internet Service package. You must purchase the these options first for this feature to work. Refer to the appropriate appendices for more information.

Export data from this computer (Gcom) (used at a remote site only): is only used under special circumstances and under the assistance of technical support staff where data needs to be accumulated at a centralized site. Basically this setting allows the *Data Collection Module* (Gcom) installed at a **REMOTE SITE** location to transmit call data it has collected and saved to a host computer also running

the Gcom collection module (like Gcom talking to Gcom). You must specify just the *Port Number* to be used by the remote computer to transmit the call data to the host computer. This Port Number must exactly match the Port Number setting on the host computer's *Collect Data from a Remote Computer* discussed below. An IP address is not required here because the remote computer doesn't care what the IP address is of the host computer, just the port number the host computer wants the data to be made available on. *Remember setting is for ****exporting***** call data from this computer not collecting it.*

Collect Call Records from a Serial Port:

Serial Port Number - You must enter the PC COM port number (1,2,3, etc.) to be used by the system to collect this data. The system defaults to COM1.

Speed - is the data transmission speed used when receiving call records from your phone system. Valid settings are 300, 1200, 2400, 4800, 9600, 19200, and 38400 bps.

Parity - is the parity used when receiving the call information. The valid settings are N - for None, E - for Even, O - for Odd, M - for Mark, and S - for Space.

Data Bits - valid settings are 7 and 8 data bits.

Buffer Box installed - must be activated **if you have installed an external buffer box** with the system. You must also set the Protocol Used (discussed below) to **Continuous XON.** This must be done to enable special "hand-shaking" between the buffer box and your PC. Failure to set this will result in call data information staying in your buffer box and never being processed causing the buffer to eventually fill and overflow.

Protocol Used - is the protocol used or required by your data collection device (buffer box) or telephone system (if any) when transmitting call information to this system. This setting should **never be changed unless you have received special instructions** from us. Current valid settings are:

None - default setting used under most conditions
Continuous XON - most commonly used when a buffer box has been installed
Echo back incoming data - required by some telephone systems to send call data
ACK/NAK protocol - required by some Internet usage reporting companies
ENQ/ACK/NAK - also required by some Internet usage reporting companies
STX/ETX - required by some telephone systems

Add Date Stamps to Incoming Records - enables the data collection program to date stamp call records received from your telephone system. Normally this setting is not activated (no date stamping) as most telephone systems provide the date the call was placed in the call records. If your telephone system doesn't supply date-stamped call records, then this setting may need to be activated. **The system is shipped to you with the correct setting. CONTACT YOUR SYSTEM DEALER BEFORE MAKING ANY CHANGES TO YOUR SETTING.**

Beep if inactive - enables the software to beep continuously if a specified number of minutes has passed without receiving any call data from your telephone system. In addition to enabling this feature, you can also specify the number of minutes that must pass without any call data before this alarm is activated.

Collecting Call Records from a TCP/IP Port:

This option is used to collect call data directly from a telephone system that uses a **static** IP address (non changing) and Port number to transmit call data, rather than a serial port. You must obtain from your telephone system vendor the IP address of the telephone system, and the Port number that is used, and enter them into this portion of the screen in order to enable call data collection from your telephone system. The computer running the software must have a network card installed and an IP connection. If this is an Avaya or other telephone system that uses a special protocol, then you must select the appropriate protocol in this section of the screen as well.

Collect Call Records from a Nortel BCM:

This data collection option is used to collect call data from a Nortel BCM telephone system. The BCM is a Windows based telephone system that transmits call data using a client / server structure over a network. The computer you are installing the software on must be connected to the same network that the BCM resides on. You must specify:

BCM server name - enter the server name used as specified by your telephone system vendor.

User name - enter a user name that has **enough privileges** to access the server

Password - enter the password for this appropriate user.

BCM 3.0 or 3.5 and later - enter the correct BCM version you are running.

Ensure all these settings are entered correctly. Failure to enter the correct information will result in no call data collection.

Collect Call Data from a Remote Gcom - (Collect Data from a Remote Computer):

This data collection option is used by a computer located at a remote site to collect raw data. The computer is normally just running the *Data Collection Module* (Gcom). In some applications this can be used instead of remote buffer boxes or modems to collect data and transmit it back to a host site. Typically just the *Data Collection Module* is installed on a remote computer that has a **static** IP address (non changing). The collection module actively collects call data at the remote site from the source and saves it in disks files until a command is sent from the host computer to transmit the call data over the network back to the host site. You must specify the *Static IP address* and *port number* used by the remote computer running the *Data Collection Module,* so the host computer knows where to go to locate the call data.

Collect Call Records using a Custom Program:

This option is used when a special program is required to extract call record data from your telephone system. A special instruction sheet accompanies your system CD providing special instructions (if any) to enable this feature. You must specify the custom program name (supplied by us) and the time interval that the program is to be run to extract the calls records. Pressing the <Properties> button will display the any additional special settings for the particular program you require. Special configuration or setup may also be required to the telephone system to enable this feature to work, depending on your system's requirements. Refer to the enclosed instructions.

Call Processing Characteristics

Setting Misc. Call Processing Characteristics

Do I really need to read this section?

No, not unless you need to make specific system operational changes. Prior to making any changes here you should contact your technical support centre. This section deals with miscellaneous system features that can be turned ON or OFF to meet any specific requirements. You should only change a setting here if you thoroughly understand the implications.

Included in this screen is a tab for Advanced settings. This area is controlled by password(s) that you must obtain from technical support before access is permitted. Typically this screen contains critical settings that must not be altered without the advice and support of our technicians.

What terms do I need to understand?

Maximum data file sizes in KB before rolling the files:

Some files used by the system are rolled over automatically to ensure they do not grow in size to the point where they fill up your hard drive. These are typically insignificant files from a user's perspective. You should check with technical support before making any changes to the default settings.

Raw - (Raw Call Records) - this file is used to keep the actual raw calls as received from your switchboard. This option is typically used for maintenance purposes and is normally not changed by the user. The system defaults to keeping 500k of the raw call data in a file called RAW.* This file rolls into a file called PREVRAW.* after 500k. Leave this field empty or blank to never roll the file.

Rejected - (Rejected Calls) - this file is used to keep all information received from your switchboard that fails the "call validity" filter (to ensure it is properly aligned). This data is written to a separate rejected calls file. This information may also include wake-up and maid calls, or switchboard initialization messages. You can then use the Rejected Calls Report in the Detail Reports menu to print this information. This Rejected Calls file is also automatically turned over with your month-end cycles, so you never have to worry about deleting it. Leave this field empty or blank to never roll the file.

Rooms - (Hotel Room Calls) - if your system is connected to a Hotel/Motel PMS system where call data is automatically transmitted to the PMS for posting to your guests folios, and you are not running guest checkout reports and clearing room totals, then you may wish to use this feature. Enabling this feature will ensure your room call data files never exceed a certain size hence eliminating the worry of filling your hard disk. However, call data is still retained in the monthly administration files retained by the system for historical reporting. Leave this field empty or blank to never roll the file.

CDR.LOG - (System Activity Log File) - this file is used for keeping track of the system activity. All our programs write execution, error and diagnostic information to this file that can later be used for troubleshooting purposes. This file can grow in size and must be controlled by rolling it over at specified file sizes.

Print Authorization Codes - the system will optionally permit you to suppress the printing of Authorization Codes on all reports except the **Authorization Code Detail** and **Summary** reports. This feature is primarily used to ensure that these codes remain confidential. Printing of these codes is normally ENABLED.

Print Account Codes - the system will optionally permit you to suppress the printing of Account Codes on all reports except the **Account Code Detail** and **Summary** reports. This feature is primarily used to ensure that these codes remain confidential. Printing of these codes is normally ENABLED.

Take SL-1 Extensions from E record - rather than charge the originating extension for the call when a call is transferred, you can configure your system to bill the terminating extension (the extension the call was transferred to). This feature only works on Northern/Meridian SL-1 switchboards.

Turn off discount tables for time of day discounts - allows the normal time of day discounts to be disabled for maximum call billing. Some system users wish to disable time of day discounts especially when billing clients.

Do not print traffic totals on bottom of reports - disables the traffic totals from appearing on the bottom of summary and detail reports

Midnight Processing time - the system allows you to set the time for the daily processing cycle to start. *Never change this without seeking help first.* All processing cycle times used by the system are to be entered using the 24-hour clock.

System entry password (optional) - this is the password required by the user to gain access to the system. The correct password must be entered before the main menu will appear on the screen. If no password has been specified, then no password is required to enter the menus.

Hotel admin menu password (Hotel systems only) (optional) - allows the system user further access to the administration menus, (e.g. Surcharges and Taxes, Extension, Trunks, etc. maintenance modules) once the System Entry Password has been entered. If no Hotel Admin Menu password is specified, then no password is required to enter the administration menus. For simplicity, the this password can be the same as the System Entry password.

Hotel profit report password (Hotel systems only) (optional) - allows the system user even further access to the Profit reports once the System Entry and Hotel Admin passwords have been entered. If no Profit report password is specified, then no password is required to print the Profit reports. For simplicity, this password can be the same as the Hotel Admin or System Entry passwords.

Trunk types for breakdown - up to 7 trunk type categories can be selected to be used on the Corporate, Division, Department, and Area Code Summary reports. The trunk type categories are preset for the 5 general call types (CO, WATS, Tie, FX, and Misc.) but can be changed at any time to specific categories used in your trunk file. Any calls for categories not defined here will fall into the 8th column **"Others"**.

Printing Reports and Listings

Printing Reports and Listings
(General Business)

Do I really need to read this section?

Maybe, but the best way to learn about the reporting features of your system is simply to print some reports. All printing instructions are displayed on the screen when you make your selections. New reports are being continuously added to the system. You can not delete any call data by running the general business reports but you can with the Hotel/Motel reports.

Hotel/Motel systems not only include the General Business reports but also a group of specialized Hotel/Motel reports. This "dual functionality" allows you to run off administration-type reports in addition to the normal guest check-out, night audit and profit reports. Further it acts as a backup to go back and examine calls made by a guest months after they have checked out. Hotel/Motel users should read the **Hotel/Motel Reports** section for additional information.

The actual printing instructions and system prompts will be displayed on the screen when you request a report. Depending on the volume of switchboard traffic and your selections, these reports could take a few minutes to prepare prior to printing. Please be patient, the system is very busy preparing your reports.

What types of reports does the system print?

There are four basic types of reports generated by:

1. **Summary Reports** - where just total calls, total duration and total cost type information is displayed summarized by Department, Account Code, Area Code, etc., depending on which report you have selected.

2. **Detail Reports** - where the actual detail of the calls is displayed, like date, time, duration, number dialed, account code, cost, etc. A total line is given at the end of each report.

3. **Custom Reports** - (Professional series only) are summary, detail or traffic reports you have created using call selection parameters and then named to a custom name for future report printing.

4. **Listings** - where just configuration information you have entered into your system is displayed, like extension, division, department, trunk names.

5. **Traffic Reports** (Professional series only) - where peg counts of call traffic and durations are displayed by hour of day and day of week. **The Call Traffic reports show ALL call traffic (not just long distance) REGARDLESS of whether you are charging for local calls and incoming calls OR have the Capture All Calls feature turned ON!**

How do I Print Reports Manually?

You can print any report manually upon request. Simply select the period(s) you wish to print reports for. If you wish to include several periods' calls on your reports, simply check the desired periods.

You can print reports for either the current or any previous reporting period **at any time**. At midnight on the day you have chosen to be your month-end date, the system will close all current call record collection files and open new files for the next reporting period. The previous month's call record files remain in your system until you manually delete them.

Five output options are available to you for your reports:

- display the report on the screen
- print the report on the printer
- write the report to a disk file
- email the report
- distribution list name

1. **Display the report on the screen** - If you choose to display the reports on the screen, you will notice some data fields normally seen on the printed reports are missing. This happens because the screen is not wide enough to display all the fields on one line. Therefore you may have to print the report on the printer, email or write it to a disk file to get all the desired data fields.

2. **Print the report on the printer** - If you have chosen to print the reports on the printer all data fields are printed.

3. **Write the report to a disk file** - If disk file output is selected, the system asks for the name of the file to which the report will be written. The system will generate the three digit file suffix (like *.001) depending on how many sites you have. If you are a single site then all your data file suffixes end with ".001"

4. **Email** (Professional series only) - If this option is selected reports will emailed to the recipient. Naturally for this option to work your PC must have an internet connection and the **Email Settings** screen in the system must be correctly completed. You can simply click on the email destination and enter the email address of the recipient. More than one recipient can be specified. If you plan on using these email address(es) again you may wish to create a Distribution List group (discussed below) to save these email addresses for future use as this entry is typically used for *one occasion* report generation.

5. **Distribution List name** - Is the name of the previously user defined Distribution List group. If you have multiple email addresses that you want a report or group of reports to be sent to regularly then you need to create a Distribution List group entry that contains the list of recipients.

How Do I Print Automatic Reports?

The **Professional series** includes an Automatic Report Printing feature. There are two default groups of Automatic Reports, Daily and Monthly. Daily automatic reports are printed each day and monthly automatic reports are printed at the end of your month during the monthend cycle. Naturally before this feature will work you must select which reports you want to be printed and to what destination (printer, email, etc) the reports are to go. **To select the reports, first click on the appropriate group you wish your report selections to be saved into (daily, monthly, etc.) and then click the <change> button and proceed with selecting your reports and the destination.**

IMPORTANT: You must FIRST create any Custom Reports first before you can select them for automatic printing.

Normally the two default groups (daily and monthly) are all that is required by most users. However you can also create and name your own *group* of automatic reports that you can schedule for later printing or initiate immediate printing. To create a new group of Automatic Reports you must click the <add> button on the screen that displays the groups of reports. Follow the instructions on the screen.

> **Daily** - any reports selected to be printed daily will be printed each night, automatically during the midnight processing cycle. These are special non-cumulative reports meaning that *only call data from the previous day will be eligible for printing on the daily reports.* If a printer problem arises, the printing will pause until you correct the problem.
>
> **Monthly** - any reports selected to be printed monthly will be printed automatically during the month-end cycle. Only calls in the current ending month will be eligible for printing. If a printer problem arises, the printing will pause until you correct the problem.
>
> **Now** - any group of reports (daily, monthly or any custom group you created) can at any time be selected to be printed immediately after you have selected the appropriate reporting period. Simply check the periods you wish to be included in the reports.

If disk file output is specified for the **"Automatic Report Selection"**, you can specify the names of the disk files. Because these are ASCII files, you can copy them onto CD's or network drives for future reference, or read them directly into other programs that accept ASCII files.

How do I print reports for periods I have previously archived?

If you wish to print reports for periods previously archived then read the **Archiving and De-archiving Call Data** appendix first. If restoring call record files from your archives, the system always checks to ensure all indexes are intact before allowing any printing. If large indexes are required, the system may take several minutes to create them depending on the speed of your computer.

What else should I know about printing reports?

To explain every possible printing option and feature would require a manual 4 times the size of this one, and most definitely put you to sleep. Therefore, we recommend you generate some reports and experiment with some of the system's printing features because they are easy to follow.

When selecting any reports for printing, you will have the following two choices:

a. - Print reports for **ALL** divisions, departments, extensions, trunks, account codes, authorizations codes, etc. depending on what report you are generating.

b. - Print reports for a selected group of divisions, departments, extensions, trunks, account codes, authorization codes, etc. depending on what report you are generating.

All summary and detail reports feature call selection parameters. These selection parameters allow you to "customize" your reports to include or exclude calls containing certain characteristics as opposed to always printing every call. This feature makes your system **extremely powerful** when requesting any type of exception report.

What are Custom Reports?

After you have selected your report and entered any selection parameters, the system will ask you if you wish to save and name this as a Custom Report for future use. If you save it, all the selection parameters (except any date parameters) used to generate this report are saved. Your custom report(s) will then appear in the report selection menus under the *Custom Reports* category so you can request them at any time. The date parameters are not saved as you will probably change them each time you run the report.

How do the Traffic Reports work?

Traffic Reports display peg counts of call traffic and durations. These are accumulated by hour of day and day of week. The Call Traffic reports show ALL call traffic (not just long distance) REGARDLESS of whether you are charging for local calls and incoming calls OR have the Capture All Calls feature turned ON! **Remember your telephone system must be programmed to send ALL call data for these reports to be accurate!** Most of the reports are self-explanatory except perhaps the **Traffic Analysis Summary** contains some special terminology you may not be familiar with.

Traffic Analysis Summary - is the most powerful report generated by your system! This report can cut your telephone expenses by identifying unused trunks or trunks that are out of service. It also gives you enough information to streamline your telephone network so that you can achieve maximum performance at minimum cost. We could write an entire book about analyzing telephone traffic, with the information produced by these reports, but our discussion here will be brief. Basically this report does the following:

- identifies each trunk member in your system and displays the total calls, total duration, and percentage of total use for each individual trunk.

- identifies the hour that is normally your busiest for telephone traffic.

- calculates the **Average Hour** (in CCS - 100 call seconds) and the grade of service during that time. The **Average Hour** is simply the total number of minutes divided by the total number of hours. The grade of service is measured using the **"P"** scale where **P01** means 1 call out of every 100 will be unsuccessful in getting through due to "all lines busy". This measurement lets you see how well your system performs, on average, throughout the day.

- identifies the **Average BUSY Hour** (in CCS - 100 call seconds) and the grade of service during that time. The **Average BUSY Hour** is simply the total number of minutes in the single busiest hour of each day divided by the total number of days. The grade of service is measured in the same manner as the Average Hour. This measurement lets you see how well your system performs during the busiest hour of each day.

- identifies the **Peak Hour** (in CCS - 100 call seconds) and the grade of service during that time. The Peak Hour is simply the hour during the reporting period that has the highest volume of telephone traffic. The grade of service is measured using the "P" scale where P01 means 1 call out of every 100 will be unsuccessful in getting through due to "all lines busy". This measurement lets you see how well your system performs during the single busiest hour (the worst one) of the reporting period.

- identifies how many trunks are required to maintain different grades of service during the average busy hour. The **average busy hour** is the one usually used for any type of traffic analysis.

In addition, this report allows you to select the hours you wish the system to use when performing the traffic studies. By default the system comes with a table defining the study period to be Monday to

Friday, 8:00 to 12:00 and 13:00 to 17:00 but this table can be modified through the menus *(Settings, Set Traffic Study Period)*. It would be deceiving to include the early morning or late evening hours (for some businesses) in the traffic averaging calculations because they would distort the averaging calculation. You can change this table (under menu control) to suit your particular requirements.

What are Distribution Lists?

Distribution Lists are groups of report recipients that you would regularly send ***the same*** reports to. Sometimes there may be only one recipient in your distribution list, however you may also have many recipients. You may also have many different *Distribution Lists* if you are generating many different reports that go to different recipients. Although the main function of the *Distribution List* is to provide destination email addresses for reports, it can also contain any customized commands that you wish to run (ie. a batch file) however you must contact technical support before implementing any customized programs.

Distribution List name - is the user defined name that you created to identify the recipient(s) that you wish any selected reports to be sent to. Distribution List names appear under the destination column (like printer, screen, disk file) in the Report Selection Screen.

List members - is the number of members in that Distribution List.

Destination - is the email address of the each individual(s) you are adding to the Distribution List.

Destination type - is the type of destination either email or a custom command. You should always choose email address unless you have discussed your particular requirements with technical support staff.

What are Email settings?

Email settings are settings that need to be configured first before any emails can be sent from the software. You may need to contact your computer support person to obtain some of this information.

Mail server name - is the name of your SMTP mail server for outgoing email.

From email address - is the email address that will show as being the originator of the email. This will also be the address that any emails you send that fail to be delivered are bounced back to.

Send report as HTML - activating this feature makes your reports formatted into HTML format which is included in the body of the email as opposed to a file attachment.

Send report as an attachment - activating this feature will allow the reports to be sent as a file attachment to your email.

File to append - is any special file or document that you want to accompany your report email. Typically these are text documents with instructions or announcements. You can also send this file as an attachment or have it included in the text of your email.

Printing Hotel / Motel Reports

Printing Hotel / Motel Reports

Do I really need to read this section?

Yes, if this is a Hotel / Motel installation. This section discusses the additional reports that can be produced by the hotel / motel version of the system. All the General Business Reports can be produced as well as the Hotel / Motel reports discussed below.

What's the difference from the General Business Reports?

Telephone calls received from hotel / motel guest phones are actually stored in two separate files. They are saved in the "General Business" file as well as a special "Guest Calls" file. The Hotel/Motel reports permit you to delete call information from the "Guest Calls" file only, once the guest has checked out. Deleting a guest's call information doesn't delete the matching call records in the General Business files. Therefore, this acts as a backup for you in the event you have to examine old guest call detail information at a later date. You can enter the "General Business" report section and print any reports regardless of whether the guest has checked out. It is important to note the hotel / motel call files are **not** affected by any month-end cutoffs done on the General Business side. **The only way calls can be deleted from the Hotel / Motel files is by running a report and clearing the guest totals (or by setting a maximum predetermined file size if your system is transmitting call information to a PMS (Property Management System). Refer to "Call Processing Settings, Maximum Data File Sizes" for more information.**

What are the reports and how do they work?

1. **Room Checkout Report** - is a report similar to the Extension Detail report, showing the date, time, number dialed, cost, etc. for calls placed from hotel or motel rooms occupied by guests. This report only shows outstanding charges against the current guest. Once the report has been printed, you may choose to delete those calls in preparation for the next guest. If an error is made, you have until midnight to retrieve calls that were accidentally deleted, by simply selecting "**Recover Deleted Calls**" and following the instructions on the screen. The *Guest Checkout Report* breaks out the basic call cost, call tax, surcharges, and total cost into separate columns. This breakdown is optional and can be selected at the time of report printing (breakdown is not available on screen output).

   If more than one room is printed at a time, you may request more than one room be printed on a page.

2. **Room Call Summary Report** - is a summary report that shows the current outstanding charges against the various guest rooms. The Room Call Summary report allows you to optionally clear all the rooms' calls after printing. Keep in mind that clearing the Room Call Summary report also clears the Room Checkout report as both reports access the same calling information file. **IF YOU HAVE A PROPERTY MANAGEMENT SYSTEM AND DO NOT RUN ANY OF THESE REPORTS TO CLEAR YOUR GUEST ROOMS, THEN YOU MUST PERIODICALLY RUN THE ROOM CALL SUMMARY REPORT AND CLEAR ALL THE CALLS TO AVOID FILLING UP YOUR HARD DISK.** If you use these reports to check your guests out, then you may ignore this warning.

3. **Profit Report** - this report requires a password to be entered before any access is given. The Profit Report calculates your profit for a specified time period. If no starting and ending dates are entered when printing this report then all profit information accumulated **since the last time the report was run** will be printed on the report. If date ranges are selected then profit information between those dates will be printed on the report.

4. **Rejected Calls Report** - can be printed from the hotel menu as well as the Detail Report menu. This report prints all "non call type" information that was received from your switchboard between 2 specified dates. Typically this information could include any switchboard alarms, wake-up calls, maid calls, or invalid calls.

Viewing Rate Table Information

Viewing Rate Table Information

Do I really need to read this section?

No, unless you want to determine the V&H Rate Table rates and discounts for a particular area code and exchange.

How do I view these rates?

Simply choose the **Rate Table Information** option in the **View** menu. Then enter the desired *area code* and *exchange code* information and optionally the *day of week* and *hour of day* information. Then click the **<search>** button and the appropriate rate information will be displayed in the window on the screen. Remember this shows the V&H Rate Table information, not the information you may have entered into the Dialed Digits Information screen.

Recosting Calls

Recosting Existing Call Records

Do I really need to read this section?

No, unless you need to recost the system call record files. This feature is typically used when recosting call files is required because of changes made to rates, company hierarchy, etc.

How are calls re-costed?

Simply choose the **Recost** option in the **File** menu. Then select the appropriate periods you wish to recost. The re-costing of call files begins immediately. During the re-costing of calls, traffic information is ignored. Divisions, departments, extensions, surcharges, markups, etc. are re-assigned and calculated based on your current settings. If selected, the **Drop zero cost calls** (like local calls) then only calls with a legitimate cost are retained during the re-costing process, with the exception of Operator assisted calls that are always retained by the system.

Part 3: COPS Toll Fraud

Part 3:

COPS Toll Fraud

- What is the COPS Toll Fraud Module?
- What action does it take?
- What is on the COPS status screen?
- How do I set my COPS Parameters?
- How do I print COPS Toll Fraud Reports?
- Helpful hints

COPS Toll Fraud Module

What is the COPS Toll Fraud module?

Telephone "fraud" is becoming a major concern to many system users. A better means to control **telephone abuse AS IT HAPPENS** is often required, as opposed to examining reports at month-end.

Your system is equipped with a very powerful Toll Fraud tracking module called **COPS (Control Over Phone System)**. **COPS** can be used by anyone who wants immediate notification when a call meeting certain user-defined characteristics is completed. **COPS** is useful in all environments from small motels to large government offices or corporations. Use of the **COPS** Toll Fraud module is completely optional.

An optional COPS Interrogator package is available for Nortel PABX that works with the basic COPS module to actually detect and disconnect fraudulent calls in progress. Contact your dealer for more details.

Without **COPS**, system users would normally wait until they run their month-end reports before looking for unusual calls. By this time the calls are usually old and it can be difficult to trace a call to its source. Now with **COPS**, you can follow up on those suspect calls and take action immediately. **You define what constitutes a fraudulent call!**

What action does COPS take?

COPS works when your system is running and collecting call data from your switchboard. Basically it examines each call as it is received from your switchboard to see if it matches any of the "Toll Fraud" parameters you have entered. If a call matches your parameters, the following actions can be taken:

- flip immediately to the **COPS** screen and display the suspect call(s).
- beep continuously until a key on the keyboard is depressed as an acknowledgement that you are aware of the call.
- dial a pager telephone number
- send an email to a *Distribution List* recipient
- disconnect the call (if your switchboard is a Nortel PABX and you have purchased the optional COPS Interrogator package).
- send a text message to a mobile device such as a cellular phone or pager

IT IS IMPORTANT TO NOTE THAT COPS WILL ONLY BE ABLE TO NOTIFY YOU IN "REAL TIME" IF YOUR SYSTEM IS ALWAYS ACTIVELY COLLECTING CALL DATA FROM YOUR TELEPHONE SYSTEM! Otherwise the calls will still be tracked and you will still be notified **BUT** this will only happen when the call data is received and processed by the software**.**

What is on the COPS Toll Fraud Status Screen?

Daily Totals - The **COPS** screen contains very useful call statistical information. Daily totals for Incoming, Outgoing, Tandem and Local-to-Local calls are tabulated and displayed as the calls are processed, REGARDLESS OF WHETHER THE CALLS ARE FRAUDULENT OR RETAINED BY THE SYSTEM FOR REPORTING PURPOSES. These totals are reset to zero at midnight. These totals are very useful for determining current calling patterns and volumes.

Suspect Call Totals - These are the totals just for the **COPS** calls that were retained by the system. These totals can be cleared by running a **"Toll Fraud"** report and selecting "Yes" to the question "Do you wish to clear the calls just listed?" The **COPS Toll Fraud** report can be found in the **"Print Reports and Listings"** section of your system, where the other system reports are located.

Suspect Call Details -The actual call detail information for the last few **COPS** calls is displayed on the screen. The Date, Time, Extension Number, Duration, Dialed Digits and Cost are displayed for these calls. Although the screen only has room to display the a few calls, **ALL COPS CALLS ARE RETAINED BY THE SYSTEM UNTIL YOU RUN A REPORT AND CLEAR THEM!**

How do I set my COPS Toll Fraud Parameters?

1. From the Main menu choose the "*Toll Fraud*" and then "*Settings*".

2. Select a table number (1 to 9) that you wish to enter your parameters into. You can also name these tables for easier reference. Currently the system permits up to 9 different ***COPS*** parameter tables. You must enter the call parameters that you want to be treated as "fraudulent". For simplicity these tables were designed to match the ones you use when printing reports.

3. Indicate for each table whether you want the computer to "flip to the ***COPS*** *Toll Fraud* screen" and/or "beep continuously" when a suspect call is received.

How do I print COPS Toll Fraud Reports?

Print **COPS Toll Fraud** reports from the **"PRINT Reports and Listings"** menus. When the report has finished printing you will be asked if you wish to clear the calls just printed. Answer **"Yes"** if you want the system to delete **ALL** the **COPS Toll Fraud calls**.

Helpful hints...

When the software receives a call it checks the call's characteristics against the parameters you have entered in your table. If the call qualifies, then the system takes whatever action you have specified in the table.

Depending on how you set your tables, it is possible for a call to have characteristics that are found in more than one table. If you have chosen different notification action to be taken for these two tables then a conflict could arise. **THEREFORE TO AVOID A CONFLICT, THE HIGHER THE TABLE NUMBER, THE HIGHER THE PRIORITY OF THE TABLE. SO WHEN A CONFLICT ARISES, THE ACTION SELECTED IN THE HIGHER TABLE NUMBER IS TAKEN.**

COPS calls are stored in a different call detail file from regular call records. It is important to note that depending on the call record's actual characteristics, it may appear on the toll fraud reports and the other system reports, OR it may appear only on the toll fraud reports. For example, if you are not keeping local calls but you want all calls over 60 minutes to be retained by ***COPS*** then a local call that is 65 minutes will not appear on the general call accounting reports but it will appear on your **Toll Fraud Reports.**

CAREFULLY CONSIDER YOUR TOLL FRAUD PARAMETERS AND ENSURE YOU ASSIGN THEM IN THE CORRECT PRIORITY! (0-lowest to 9-highest)

Part 4: Genesis Diagnostics

Part 4:

System Diagnostics

- Diagnostics
  - **To ensure reliable system operation**
  - **Check for Warning messages**
  - **Check Raw Call Data being produced by the phone system**
  - **Current computer date & time**
  - **Current phone system date and time**
  - **No Raw Call Data - Typical Problems and Solutions**
  - **Serial Port Test Utility**
  - **Diagnostic procedure using the Serial Port Test Utility**

Diagnostics

System Diagnostics

To Ensure reliable system operation:

The system operator MUST observe the main menu screen at least once each day to ensure correct system operation. If you fail to perform these checks, the system or your telephone system's CDR port could be down for a long period of time before anyone would know. If the system is down, call record collection is suspended and valuable call data is lost. Check these items from the main menu screen:

> **Check for Warning messages -** Click the System Status tab and look for Warning messages. Look for any current system warning messages on this screen. You can print the contents of this screen and more by clicking the <Print> button.
>
> **Check for Raw Data being produced by the phone system -** Click the Raw Data tab ensure recent call records from your phone system are being displayed on the screen. If no calls are seen, turn the computer OFF for 20 seconds (this resets the computer) and check all cable connections. Turn the computer back ON and bring up the system's main menu. Place a test call and watch the screen. If call records are still not seen, check your phone system or contact your phone system's vendor and inform them that "the phone system is no longer sending CDR or SMDR information to your call accounting system". FAILURE TO CORRECT THIS WILL RESULT IN PERMANENT LOSS OF CALL RECORDS. THIS COULD RESULT IN LOSS OF REVENUE ESPECIALLY IF CALLS ARE CHARGED OUT TO GUESTS, CUSTOMERS OR PROJECTS. You can print the contents of this screen and more by clicking the <Print> button.
>
> **Current computer date and time** - ensure this is correct. The computer date and time is displayed in the top right corner of the main menu screen. Adjust computer date and time if required, reset computer and verify the change. FAILURE TO DO SO WILL RESULT IN AUTOMATIC MONTH END CYCLES RUNNING AT THE WRONG TIME.
>
> **Current phone system's date and time** - ensure the date is the same as the computer, and the time is fairly close. Adjust the date and time on your phone system if required. Watch new calls appearing on the screen to verify change. FAILURE TO DO SO WILL RESULT IN BILLING ERRORS DUE TO INCORRECT TIME OF DAY AND DAY OF WEEK DISCOUNTING.

The system comes with a complete self-diagnostic utility. This diagnostic utility is designed to help both the user and technical support staff trouble-shoot any problems occurring with your system. If you suspect problems with your system, do the following:

1. Ensure you are in the system's main menu and your printer is turned ON.
2. Select **"Diagnostics, Run Trouble report"** option. This report can be printed on the printer or emailed to the Technical Support Center.

3. Fax the report and the screen printout to your system's support centre if required.

No Raw Call Data - Typical Problems and Solutions

This type of problem can be very complicated to resolve because you are working with three different devices (the switchboard, cable and the PC). Read the following suggestions carefully. You may require the assistance of your switchboard or computer vendor to resolve the problem.

Most Common problems (99.9% of the time it is one of these): (take your pick)

A. Cabled incorrectly from switchboard so that switch will not send data; only Pins 3 & 7 required, otherwise you must strap any others at the switchboard end of the cable.
B. Pins 2 and 3 need to be reversed
C. Speed, parity, and data bits don't match switchboard CDR output
D. Computer's serial port configured incorrectly or conflicts with an existing internal fax / modem
E. Computer's serial port is defective.
F. Switchboard is not programmed to send call data.
G. Error message "Cannot find GCOM - Calls will not be collected"
H. Other offending software running on the PC simultaneously
I. Buffer Box systems - PAUSE button is ON or cables have been disconnected

Problems A & B: Cabled incorrectly from switchboard so that switch will not send data; only Pins 3 & 7 required, otherwise you must strap any others at the switchboard end of the cable OR Pins 2 and 3 need to be reversed:

Solutions:

1. If this is a brand new installation then check the Switchboard's SMDR specifications and cabling requirements. You may need to strap certain pins together AT THE SWITCH END or reverse pins 2 & 3 (transmit & receive data).

2. Check the SMDR/CDR cable running from your switchboard to your computer to ensure it has not been disconnected, damaged, shorted or come loose from the PC or the switchboard or it is plugged into the wrong serial port on your computer.

3. The switchboard CDR/SMDR card may be defective. This can occur due to power surges, grounding problems and electric phase problems.

Problem C: Speed, parity, and data bits don't match switchboard CDR output. Sometimes the CDR port is programmed or re-programmed to send data at a different speed than your system is expecting.

Solution: Determine what speed your switchboard is using when transmitting data. If it is different than the PC, then adjust the software call collection speed (SET Data Collection Parameters) so they match.

Problems D & E: Computer's serial port configured incorrectly or conflicts with an existing internal fax / modem (IRQ & Port Address Conflicts) OR Computer's serial port is defective. Sometimes when a new card is added to your PC it is not configured correctly or it can become defective due to static electricity or other stray voltages.

Solution: On a new installation, check the settings of the serial ports because they may not have been configured correctly, or they need to be adjusted. On an existing installation find out if the computer has recently been worked on because something new and conflicting may have been

added OR something (like a ribbon cable) may have been disturbed. You may want to perform the test below (Step 1.) to determine if the serial port is still operational.

Problem F: Switchboard is not programmed to send call data. Sometimes when the switchboard has been worked on, the technician may forget to "RE-ENABLE" CDR (call detail records) output. If it is a large switchboard and with remote access, the technician may have worked on the switchboard remotely.

Solution: Check the operation of the SMDR/CDR port on your switchboard.

Problem G: Error message "Cannot find GCOM - calls will not be collected".

Solution: Reset the computer and ensure the WGCOM.EXE raw data collection program is running in your computer desktop tray (bottom right corner). Call technical support if it is not running after a system reset.

Problem H: Other offending software running on the PC simultaneously. You may be running other programs on this PC that interfere with the call collection program. Find out what other programs are used on this PC. If it was working fine before, find out if any new programs have been added.

Solution: Temporarily remove or disable those programs, reboot the computer and see if the system collects calls. If it does, refrain from using those programs on the PC or contact your system support centre with the name of the offending programs.

Problem I: Buffer Box system Pause light is on

Solution: Turn pause light OFF and calls should pass through to the computer.

Serial Port Test Utility:

A common problem encountered both during the initial installation as well as the after the system has been running for a while is that raw data from the telephone system is no longer being received by the system for some reason. In order to quickly troubleshoot the cause we have created a special serial port test program that can perform all sorts of test to help determine the cause of the problem.

This is a special serial port test program that can be used to look for any data at various speed and parity settings.

Since this test utility displays any data that it sees at the serial port, regardless of the data settings, there should be something showing up on the screen if the cabling is correct. If the baud rate is incorrect then the data in the ASCII display box on the screen may be partially or completely unrecognizable (ie. lots of graphic characters). There can be only one correct data setting for the collection program.

This program also allows you to test a serial port by performing a "loop-back" test. Simply enable the **"Send test pattern once a second"** check box and click the **<Start test>** button. Then jumper pin 2 to pin 3 on the serial port as shown on the diagrams displayed on the screen. This test is very helpful when determining whether you have the correct serial port, and whether the port is actually operational. Click the **<End test>** button to terminate the test.

You may also send a pre-typed string of characters by entering them into the *__Send data__* box and clicking the <Send> button.

An explanation of the terms follows:

Serial Port Number - You must enter the PC COM port number (1,2,3, etc.) to be used by the system to collect this data. The system defaults to COM1.

Speed - is the data transmission speed used when receiving call records from your phone system. Valid settings are 300, 1200, 2400, 4800, 9600, 19200, and 38400 bps.

Parity - is the parity used when receiving the call information. The valid settings are N - for None, E - for Even, O - for Odd, M - for Mark, and S - for Space.

Data Bits - valid settings are 7 and 8 data bits.

Diagnosis procedure using the Serial Port Test Utility:

IT IS IMPORTANT TO NOTE THAT THIS PROGRAM CAN NOT BE RUN SIMULTANEOUSLY WITH THE DATA COLLECTION PROGRAM SUPPLIED WITH YOUR SYSTEM OTHERWISE THE TWO PROGRAMS WILL "FIGHT" OVER WHO HAS CONTROL OF THE SERIAL PORT! Therefore you must click on the Data Collection icon in your desktop tray and close this program before running these tests.

Step 1. To determine if the PC port is operational and you are connected to the correct port, do the following:

a. Disconnect the switchboard to PC cable from the PC.

b. Select Test Serial Port in the Diagnostics menu of your system. Enter the serial port number, speed, parity and data bits that you wish to use. Enable the ***Send test pattern once a second*** option. Short pins 2 & 3 on the serial port you have chosen using a paper clip or some other metal device. See if any data is displayed on the screen. If absolutely nothing is seen try running DUMPCOM again with a different port number. This port may be defective.

c. If absolutely nothing is seen then the problem is with the computer. Either the serial cards have been configured incorrectly so that they conflict with other ports or the serial card is defective. If test data is seen then proceed to Step 2.

Step 2. To determine if the switchboard is sending call data do the following:

a. Run the Serial Port Test program in the Diagnostics menu. Enter the serial port number, speed, parity and data bits that you wish to use. Do **NOT** enable the ***Send a test pattern*** option. Place some test calls and see if any data is displayed on the screen.

b. If you see "clean" data then the switchboard and the PC are operating correctly. Check the data collection settings in the software menus.

c. If you see data but it is "garbled" then try again using different data settings. When the data looks clean, make note of the current settings and check the ***Set data collection settings*** in the software menus and enter the correct settings.

d. If no data is seen and you know the computer's port is operational (from Step 1.) then the problem lies with the switchboard. Contact your switchboard vendor for help.

Appendices

Appendices

- Installing Remote Site Polling
  - How does Remote Site Polling work?
  - What terms do I need to understand?
  - Software Installation Instructions (main site)
  - Buffer Box Installation Instructions (remote site)
  - Additional Notes

- Installing the Multi-Switchboard Version

- Configuring the PMS Interface
  - What is a PMS Interface?
  - What terms do I need to understand?
  - How does ACK/NAK Protocol work?
  - What are the record formats?
  - Installation Instructions

- Exporting Calls to Other Programs
  - Option #1 - Batch Mode
  - Option #2 - Real-time Mode

- Archiving & De-archiving Call Records
  - Archiving
  - De-archiving

Remote Site Polling

How does Remote Site Polling work?

The **Remote Site Polling** option allows call detail information to be polled automatically from remote location(s) nightly back to a main site, for centralized processing and reporting. At the remote site, a buffer box is connected to the switchboard. This buffer collects the call information throughout the day. Then during the midnight cycle, or upon user request, the polling program is invoked that accesses the buffer and down loads the calling information from the remote site(s). Many different types of buffers can be used that can be accessed by dial-up and TCP/IP. Follow the instructions that accompany your buffer box.

The call records from each site are kept separately. This allows each site to have its own unique Division, Department, Extension, Trunk, Surcharges and Markups, switchboard makes, Month End dates, etc. without affecting any other sites.

What terms do I need to understand?

COM port to use - is the COM port number that your modem is connected to. Currently the polling program supports only COM1 or COM2. Call your technical support centre before attempting to use COM3 or COM4.

Dialed Digits - is the phone number your modem must dial to connect to the remote modem and buffer box. This number must include any access codes or 1+ digits required reach the remote site (as though you were actually dialing the number). It is recommended that you insert commas after the

access code to allow your telephone system to stabilize before any additional numbers are dialed (e.g. 9,6045309173).

Polling speed, parity, and data bits - must be set **exactly** to the same settings as the remote buffer box uses for transmitting. Failure to get this correct could result in polling failure. The polling software at the central site must be set to receive data with **even parity** and **seven data bits** because the E-COMMS buffer box will only respond to these settings.

Buffer Box Type - select the E-COMMS buffer box type from the list. Contact your technical support center first before using any other make.

Software Installation Instructions (main site)

If you are installing polling software there will be one extra diskette for each of the polled sites, and some additional instructions. Follow the instructions below:

Step 1: Install the regular system software (disks 1, 2, 3, etc.) and the remote site disks as discussed in the Installation section if you have not already done so.

Step 2: Type SITE to bring up the site selection menu. From here you can select the site you wish to configure.

Step 3: Select "Adjust Control Settings" then choose "Set Data Collection Parameters" and enter the polling information for this remote site.

Step 4: Repeat for each site. You must configure all sites as they are completely different systems. You must also enter the site-specific information such as Trunk Numbers, Division, Department, and Extension information for each site.

Buffer Box Installation Instructions (remote site)

The following instructions discuss configuration and installation of an E-COMMS CAB series buffer box at the remote site.

Step 5: Locate the DIP switches on the back of the E-COMMS and set the output speed to match the transmission speed of the modem, and the input speed to match the output speed of the switchboard. Refer to the table on the bottom of the buffer box for DIP switch settings.

ALWAYS set switches 7, 8, 9, and 10 in the UP position.

Step 6: Construct a buffer box-to-PABX cable and purchase or construct a cable to run from the buffer box to the modem using the following specifications:

Switch CDR port pin		**Buffer Box port** (input)	(output)	**Modem** (input)	(output)
3	3	2	3	to phone jack	
7	7	3	2		
		7	7		
		8	20		
		20	8		

NOTE: Only run 2 wires (pins 3 & 7) between the switchboard and the buffer box. Two-way

communication is not necessary between the switchboard and the buffer box, but it is necessary between the modem and the buffer box.

Step 7: If you have not already done so, connect the cables between the switchboard CDR port and the INPUT port on the buffer box. Also connect the buffer box-to- modem cable. Then connect the modem-to-phone jack cable.

Step 8:: Hold down the **PAUSE** button on the CAB buffer box and plug it in. The buffer will reset, perform a self test, and beep four times. It is now ready to receive data.

> **NOTE** - If you wish to send a test pattern from the buffer box, refer to the E-E-COMMS CAB buffer box manual for instructions.

Step 9: If the switchboard is not busy, make a couple of test calls. Watch to see if the input LED on the buffer box flashes RED when the test calls are terminated. The input LED will flash whenever call records are received from the switchboard.

Step 10: Set the modem to AUTO-ANSWER following the procedures in the modem manual. **ALSO ENSURE THE MODEM'S CARRIER DETECT FOLLOWS THE TRUE STATUS OF CARRIER DETECT RATHER THAN BEING FORCED "ON" AT ALL TIMES.**

Additional Notes:

Ensure you are running the correct switchboard specification file for the remote sites.

Use a 25-pin modem cable (straight through) to connect the PC to the modem if you are using an external modem. Ensure the modem has direct access to an outside line at night so the polling cycle can operate.

A polling log will be printed each night after the polling cycle has finished. It is important you leave the printer ON and check the log each morning for any problems reported by the polling program. The polling program will make 3 attempts to reach each remote site. If a particular site could not be polled the previous night, the problem should be corrected (usually the remote site's modem or buffer box is the problem). Any site can be immediately polled by selecting "Poll This Site Now" in the remote site's main menu.

Installing the Multi-Switchboard Version

Installing the Multi-Switchboard Version

The **Multi-Switchboard Version** allows call detail records from several different switchboards or key telephone systems (even different makes) to be collected simultaneously. Typically the main switchboard's CDR port is redundant connected directly to the PC's COM1 port, while the additional switchboard's CDR ports are connected to COM2, COM3, etc..

The calling information from each site can be kept in different files or combined into a single file for reporting. Keeping them separate allows each site to have its own unique Division, Department, Extension, Trunk, Surcharges and Markups, Switchboard Makes, Monthend dates, etc. without affecting the other sites.

Installation Instructions

If you are installing a multi-switch version there may be one extra disk for each additional site. Follow the instructions below:

Step 1: Install the regular system software as discussed in the Installation section of this manual if you have not already done so.

Step 2: Click on the Site selection icon to bring up the site selection menu.

Step 3: Select the main site, and then select **"ADJUST Control Settings"** and **"SET Data Collection Parameters"** and set the COM port number, speed, parity, and data bits for the "primary" serial port. Repeat the above for each site on the menu.

Step 4: Configure each site as though it is a completely different system. You must enter the site-specific information such as trunk, division, department, and extension information for each site.

Additional Notes

Ensure you are running the correct switchboard specification file for the other sites.

Configuring the PMS Interface

Configuring the PMS Interface

What is a PMS Interface?

The PMS Interface option allows your system to transfer telephone call information and charges to another computer system running some type of Property Management System (PMS).The most common method of sending these records is by an RS-232 connection from a serial communications port on the Call Accounting computer to a serial communications port on the PMS computer. Another method of sending the records is by providing a "flat" ASCII disk file that the PMS software can periodically retrieve (providing the PMS software is running on the same computer). Call technical for more information.

The **PMS Interface** feature is typically used in the hotel environment where call information received from this software is transmitted to another computer for posting directly to the customer's folios (usually in real time). It is also used by large legal and accounting offices running a centralized accounting system on a separate computer, who require clients' telephone information for statement preparation. In order for this option to work, you must have at least two serial ports in your computer: one to receive the data from your telephone system, the other to transmit the records to the PMS computer.

There is no "industry standard" for the protocols or record formats used by PMS systems. The most common record formats and protocols used have been included in your system. However, should none of these match your requirements, you should contact your system dealer for further information as changes are constantly being made in this area.

This section discusses the various different settings on the **"SET PMS Parameters"** screen and how configure it. **Installing and configuring PMS Interfaces can be extremely difficult. However once installed correctly they operate with little or no user or technician involvement. If you are experiencing problems during the installation please call us for help!**

What terms do I need to understand?

PMS Port Number - is the port number (COM1, 2, 3, or 4) that will be used by the system to send records to your **PMS** computer. Remember you must have at least 2 serial ports in your system for

this option to work: one port for receiving the call information from your switchboard, and the other port is for sending the costed call information to your **PMS** computer.

Speed - is the transmission speed to be used by the system when sending the call information to the PMS computer. Typically 300, 1200, 2400 and 9600 bps are most common.

Parity - is the parity to be used by the system when sending the call information to the PMS computer. Valid settings are **N (none), E (even), O (odd), M (mark), and S (space).**

Data Bits - is the number of data bits to be used by the system when sending the call information to the PMS computer. Valid settings are 7 and 8 data bits.

Output Record Format - is the actual format you require the system to use when transmitting the call records. There are numerous record formats available so it is imperative you select the one that matches your PMS. The 3 most common formats are discussed here. If none of those formats matches your PMS requirements, then contact technical support for more information.

Hotel ID and Checksum - allows you to change the 3-character ID and specify whether to a append checksum, append an XOR checksum or no checksum. You MUST IGNORE these and leave these fields blank unless advised by technical support.

Send Calls to PMS - this setting allows you to select the type of records that you wish to be sent to the Property Management System. You can select records from administration phones only, hotel rooms only, or all records, be sent to your PMS. The type of record (e.g. Room versus Administration) is determined from the **"Extension type"** entry in the extension file screen.

Protocol - is the protocol to be used when transmitting records to the PMS computer to ensure the record is received intact. There are numerous different protocols. Our software uses of the most common protocols **ACK/NAK** and **ENQ/ACK/NAK**. You may also select "none" if no protocol is available. The only problem with "no protocol" is that there is no way of knowing if the PMS computer is ready to receive call information, or if it received it intact.

PMS timeout - is the number of seconds this software will wait before re-transmitting a call record to the PMS if no response is received. A protocol must be activated for this feature to work.

Output records to PMS.DAT - activating this setting will output PMS records to a disk file. If it is routed to a disk file, a PMS package running on the same computer as this software can access the call record file for posting directly into their system.

Output sites to separate files PMSDAT.001 - this feature when activated allows call data from separate sites to be written to separate files ending with the suffixes .001, .002, .003, etc. This option is not used very often so you should contact technical support before changing it.

Roll PMS.DAT every ____ KB - enables the feature to delete a PMS.DAT file once it has reached a user specified size to avoid the file becoming too large. This feature is normally only used when the Output records to PMS.DAT option has been enabled for diagnostic reasons as opposed to supplying call records to an PMS package running on the same PC.

PMS prefix and suffix strings - some PMS systems require special starting and ending characters when receiving records. If those characters are not present, the record is ignored. The software allows you to enter up to 4 prefix and suffix characters (wrappers) to be put on the front and back of each record sent to your property management system. The default setting (if none are specified) is:

<LF> <record> <CR>	(record format 1 only)
<record> <CR> <LF>	(all other record formats)

How does ACK/NAK Protocol work?

Records will be sent from the Call Accounting software and the PMS will respond to these records by acknowledging that the record was received properly, or by sending a signal that the record was not

received properly. The next call record may be sent if the acknowledgment is received by the system from the PMS; or if there was an error, or no response from PMS, the current record is sent again.

ACK/NAK refers to the characters used to acknowledge receipt of data from another system:

- The ACK (Acknowledge character) is defined as ASCII-6 (CTRL-F).
- The NAK (Negative Acknowledge character) is defined as ASCII-21 (CTRL-U). These characters will be sent by the PMS, and not the Call Accounting system, because only the Call Accounting system checks for these characters.

When using ACK/NAK protocol and a NAK or no response is received from the PMS, the records are written temporarily to the disk file called PMSQUEUE.001 for future transmission. This routine is designed to recover from power failures, and to allow records to be saved in case the PMS does not respond or cannot process records as fast as this software produces them. After recovering from a power failure , or when the PMS starts responding again, all records stored in PMSQUEUE.001 will be sent to the PMS. After all records in PMSQUEUE.001 have been sent the system deletes the file.

a) Normal Interface Activity

Typically, the communication on the interface will proceed like this:

```
        Call Accounting System                PMS
send a call information record   ---->
                                      <----   PMS sends back an ACK
send the next call information   ---->
                                      <----   PMS sends back an ACK
```

b) Error in receiving record

Suppose that the PMS detects an error in the call information record. This can happen because of line noise, temporary disconnection, or error in the record's information.

```
        Call Accounting System                PMS
send a call information record ---->
                                      <----   The PMS could not process the
                                              record properly and sends a NAK.
send the call information again ---->
                                      <----   The PMS receives it properly and
                                              this time sends back an ACK
send the next call record   -------->
```

Note that the Call Accounting System will re-send the same record up to 3 times when receiving a NAK. After that, the record will be written to the REJECTED CALLS file for future reporting.

c) No response from the PMS.

If the ACK or NAK response from the PMS is not received by the Call Accounting software (due to PMS failure or line disconnection), it displays the message **"PMS not responding"**. The software waits a certain length of time to receive an ACK or NAK back from the PMS (typically 60 seconds) before attempting to re-establish the PMS link by re-transmitting the record.

d) Buffering of Call Records

The Call Accounting software buffers any call records that have not been sent out yet due to any interruption to either the PMS or the interface link. This buffer is in the form of a file called PMSQUEUE.001 that contains the buffered call records. When the PMS interface link is re-established, the contents of the PMSQUEUE.001 file are automatically sent.

What are the record formats?

The most common PMS record formats are available as well as a user-defined output format. Up to 4 starting (prefix) and 4 ending (suffix) characters can be specified to be transmitted as part of each record. The three most common record formats are discussed below:

FORMAT 1:

Format 1 is the most popular PMS Interface format. A Format 1 call record looks like this:

001C CKC 12/10 00212 19:46 0012 $006.55 604-498-5000 L

Format 1: The length varies with the length of the phone number dialed. Notice the corresponding field positions listed below the call record in the sample above. Any beginning-of-line or end-of-line character(s) you program increases the length of the call record, however they are not part of the call record itself. The table below explains each item in the sample Format 1 call record.

Col.	Item	Example	Notes
1-4	Sequence Number	001C	Restarts with 001A each time you erase the data.
5		blank	
6-8	Site Identifier	CKC	Defaults to CKC but can be changed
9		blank	
10-14	Date of Call	12/10	MM/DD Includes leading zeros
15		blank	
16-20	Station Number	212	Station to which call is charged. (max. 5 char. right just. space filled)
21		blank	
22-26	Time of Call	19:46	HR:MM. Military time
27		blank	
28-31	Length of Call	0012	In minutes, leading zeros included
32		blank	
33-39	Cost of Call	$006.55	Leading zeros included
40		blank	table1
41-	Number Dialed	398-5000	Dialed number, variable length field
		blank	following last digit
	Call Identifier	L	Blank — Long distance F — International L — Local

FORMAT 2:

Format 2 is designed specifically for the Micros family of property management systems. A Format 2 call record looks like this:

ac013606012964154987212

Format 2 call records have a maximum length of 36 characters. The length varies with the length of the phone number dialed. Notice the corresponding field positions listed below the call record in the sample above. Any beginnings-of-line or end-of-line characters you program increases the length of the call record.

Col.	Item	Example	Notes
1	Start of Message	a	Always a
2	Command Message	c	Always c
3-4	Command Code	01	Always 01
5-8	Room Number	3606	Station (max. 4 char., leading zeros)
9-14	Cost of Call	001296	In pennies (with leading zeros)
15-	Number Dialed	4154987212	Dialed digits (left justified.)

FORMAT 3:

Format 3 is designed to be used with general business computers and user-designed applications. A Format 3 call record looks like this:

09/29 412 21:37 0007 $004.87 212-931-4828 9302 NY 123456

Format 3 call records are 72 characters long. Notice the corresponding field positions listed below the call record in the sample above. Also note a single space separates all items in a Format 3 call record. Any beginning-of-line or end-of-line characters you program increases the length of the call records. The table below explains each item in the sample Format 3 call record.

Col.	Item	Example	Notes
1-5	Date of Call	09/29	MM/DD leading zeros included.
7-11	Station Number	412	Station (5 char. Right justified leading zeros suppressed.)
13-17	Time of Call	21:37	HR:MN. (Military time, leading zeros)
19-22	Length of Call	0007	Minutes (max. 4 digits leading zeros)
24-30	Cost of Call	$004.87	Leading zeros included.
32-43	Number Dialed	212-931-4828	Twelve digits, dashes, left justified.
45-51	Trunk Number	T001011	Seven digits leading zeros suppressed, right justified.
53-58	Place	NY table3	Province / State Six characters, right justified, never blank, if unknown: three spaces followed by "Unk".
59-72	Account Code	12345	Fourteen digits, right justified, Inclusion of leading zeros depends on format received. Single right justified zero if no account code.

Installation Instructions

Step 1: Construct a cable with the correct connectors and pin configurations to connect the PMS port of your computer to the Property Management Computer as shown below:

	PMS	**Call Accounting System**
DB-25 connector	2 ----------	3
	3 ----------	2
	7 ----------	7
DB-9 connector	3 ----------	2
	2 ----------	3
	5 ----------	5

Step 2: Ensure that the serial card for the PMS port is configured correctly. You may need to refer to the card manufacturer's documentation if problems arise.

Step 3: Connect the cable.

Step 4: Bring up the Call Accounting software menus, and select **"ADJUST Control Settings"**, then select **"SET PMS Parameters"**. Enter the information as required for this installation. Refer back to the "terms" portion of this section for answers to specific configuration information.

Step 5: Exit the system and re-boot the computer. Place some test calls of at least 1 minute duration from a hotel room. Have the front desk clerk check the PMS for posting.

Step 6: PMS Interfaces can be very complicated and time-consuming to install. Please do not get frustrated, just call our technical support office if you require any help.

Exporting Calls to Other Programs

Exporting Calls to Other Programs

The Data Export Utility is an optional program that allows you to export your system's call record information directly into other software packages. This export utility can run in either "batch" mode (on demand), or "real-time" mode continuously as calls occur.

This procedure copies the call records retained by the system into a file called **SELECT.001** in the Call Accounting system installation sub-directory. This file may then be copied onto a floppy diskette or into any other sub-directory for further processing. During the transfer of records from the system files to the ASCII file **SELECT.001**, the records are re-formatted according to user-determined specifications. The default record output format is included with this utility. But many different formats are available. Check with your system dealer for more information.

This export utility program (EXPORT.EXE) may be run as often as you wish. It will only copy and reformat records that have been received since the last time this program was run.

Instructions for batch mode export:

> **Step 1:** Type **EXPORT** on the keyboard while in the **\CDR** sub-directory. Wait while the records are being extracted and formatted. The records will be stored in SELECT.001.
>
> **Step 2:** Copy the output file **SELECT.001** to the sub-directory that contains the accounting, spreadsheet, or database software.
>
> **Step 3:** Read the ASCII file into the other system. The **SELECT.001** file remains intact with the old records until the next time the **EXPORT** program is run. At that time the file is over-written with the new one.

Note: The system keeps track of the last record that was exported and re-formatted into **SELECT.001** so that it knows where to start the next time the program is run. This last record is kept in the file **LASTEXP.001**. If this file is deleted or doesn't exist then the program will copy and re-format all records currently in the system. If the program can't find the matching record in your call record files, then all records occurring since the approximate date and time of the "control" record are extracted.

Archiving and De-archiving Call Records

Archiving

To archive your call records you must save the files **??yymmdd.*** at least once a month. Where:

?? - refers to the different file types such as call record, traffic, etc. used by the system.

yymmdd - refers to the year ,month and day of the last day's calls to be found in this file

.* - refers to the variable last name of the files, which depends on how many sites information is being stored by the system. If this is a single switchboard (single site) version (most common) then the last name will be **".001"** for all the data files. Otherwise, if it is a multi-tenant, polling or two switchboard version then the last name could be ".002, .003, .004" etc. depending on which site you are working with.

These files contain previous month's call records and traffic information. The number of call records in any file varies greatly with the particular site at which the system is installed. The size of the telephone switch, the type of business, and the type of call records being kept by the system are just some of the factors which determine the size of the file. Since the size of the file varies so much the method for archiving it will have to be determined by the user. Here are some storage possibilities:

- Read-write CD's
- Network Drive
- Tape
- Removable storage devices

De-archiving and Running Reports on Old Call Records

Now that the call records are safely stored away there may come a time when you will need to retrieve them and run reports. The process is simple. Just copy your old call record file(s) back into the \ genroot\cdr folder.

Indexes may need to be created by the system before any reports can be run. This will be determined "automatically" be the system when you attempt to run reports. The system will then advise you that it has to build the indexes first. This process could take several minutes to complete depending on the size of the files and the speed of your computer.